

# TX51-19M LCRTF

LIGHT CAPABILITY ROGH TERRAIN FORKLIFT

# **OPERATOR** TRAINING

# Terminal Learning Objective:

a. 1. Provided a Light Capability Rough Terrain Forklift, TX51-19M (LCRTF) and a training area, with the aid of references, operate the tractor in support of engineer operations in accordance with TM-\_\_\_\_\_\_\_. (1345.2.14)

Enabling Learning Objectives:

o. Provided to sight Capability likeugh tork high ITX54-at9M (HQRTF)X511executed shwite the stide of without the sifentación mentaliques de la contraction de la eschiptipatereranged avita unum Thets necessary tools, with the aid of references, perform after operation checks in accordance with TM-(1345.2.14f)

#### SAFETY RULES & PRACTICES

- 1. SEAT BELT FASTENED
- 2. ALL CONTROLS IN NEUTRAL POSITION
- 3. APPLY THE SERVICE & PARK BRAKES

#### SAFETY RULES & PRACTICES

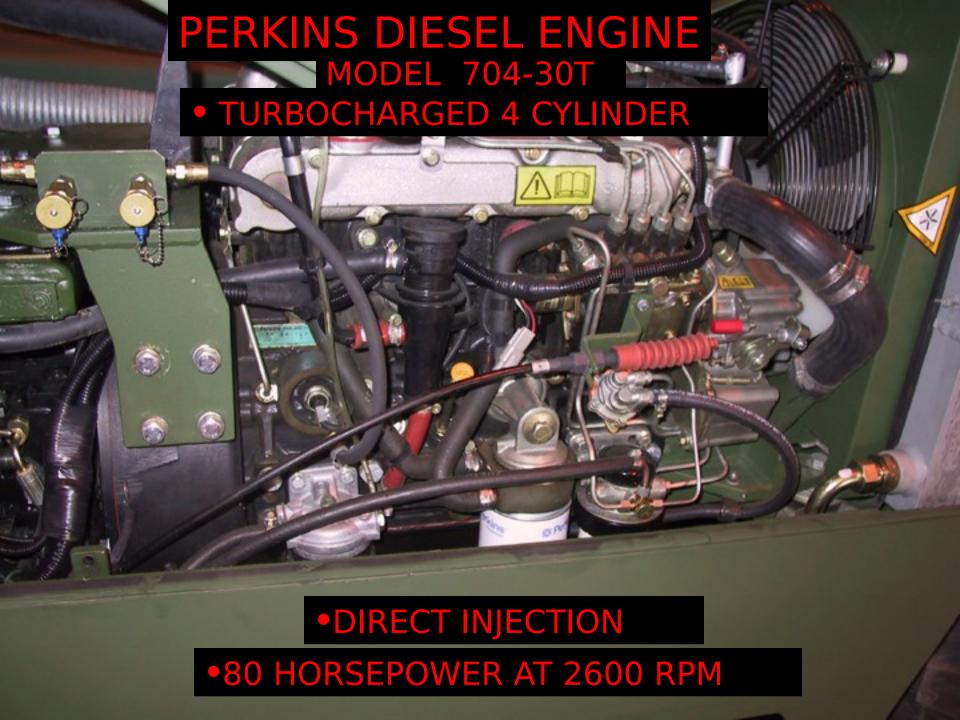
- 4. NO PASSENGERS
- 5. BE AWARE OF PINCH POINTS
- 6. KEEP HANDS AND FEET IN THE CAB
- 7. CHECK CLEARANCES POWERLINES, ECT.
- 8. SAFEGUARD PEDESTRIANS AT ALL TIMES

#### OPERATOR RESPONSIBILTY

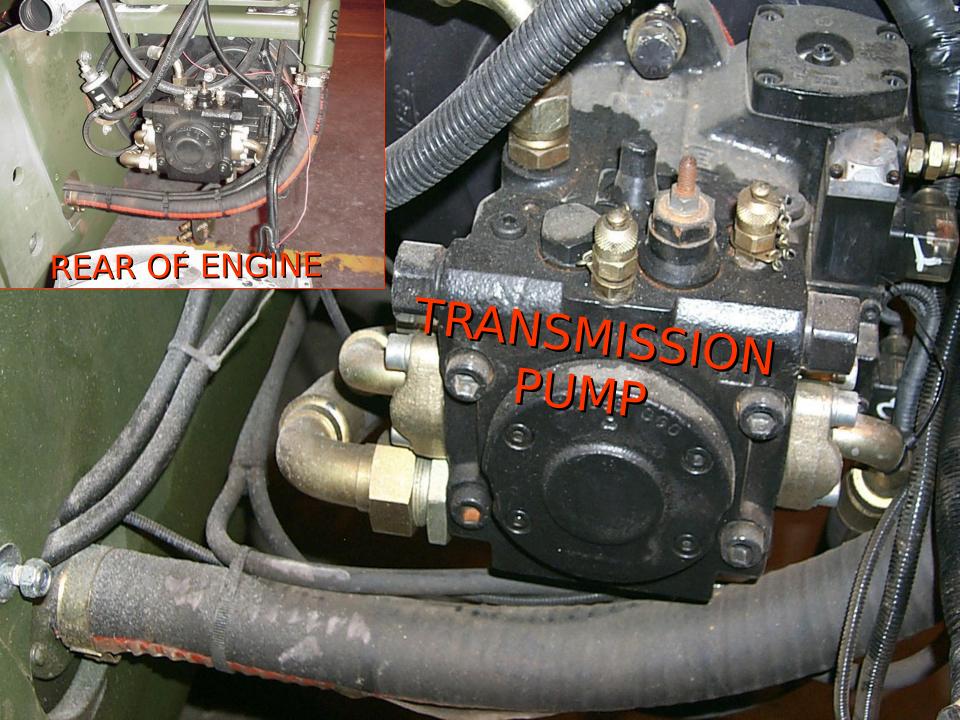
- SAFE OPERATION
- SAFE WORKING HABITS
- AWARE OF HAZARDOUS CONDITIONS
- FAMILIAR WITH OPERATION OF CONTROLS
- ABIDE BY THE SAFETY RULES & PRACTICES

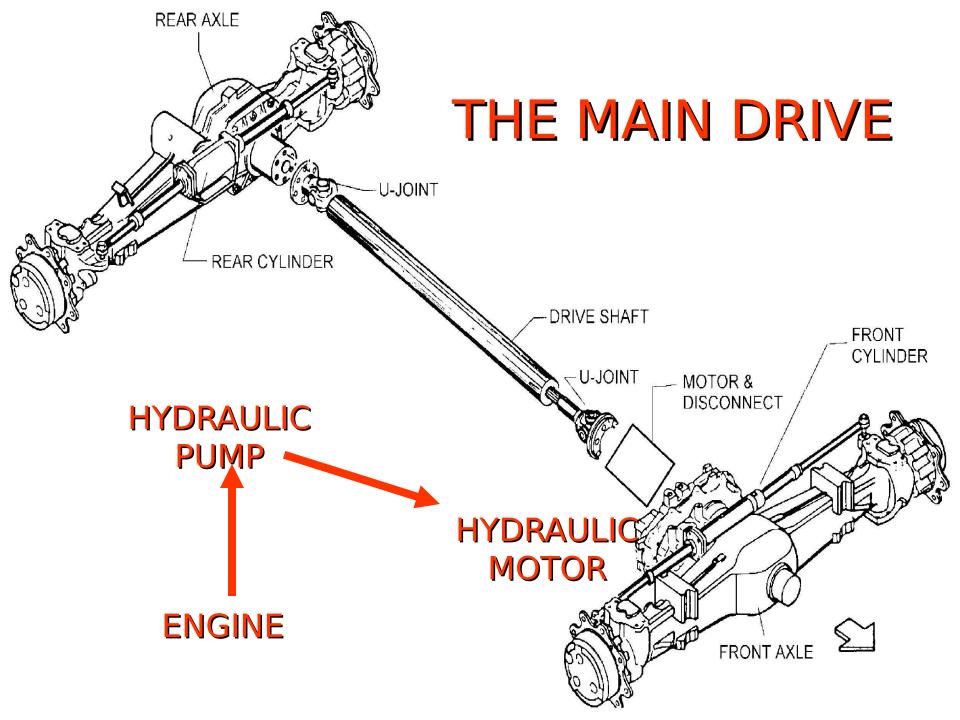
### **WEIGHT**

• WEIGHT IN RUNNING ORDER 13500 LBS









#### **SPECS**

- MAXIMUM SPEED MPH 20
- SAME SPEED FORWARD OR REVERSE MOTION
- FULL TIME 4-WHEEL DRIVE
- MAX. SLOPE WITH FULL LOAD 45%
- FORDING DEPTH OF 36 INCHES





#### PAYLOAD AND REACH

- MAXIMUM LIFT CAPACITY IS 5070 LBS
- •MAX. LIFTING HEIGHT 18' 9"
- MAX. REACH FORWARD FT. IN. 10' 9"





# **STEERING MODES**





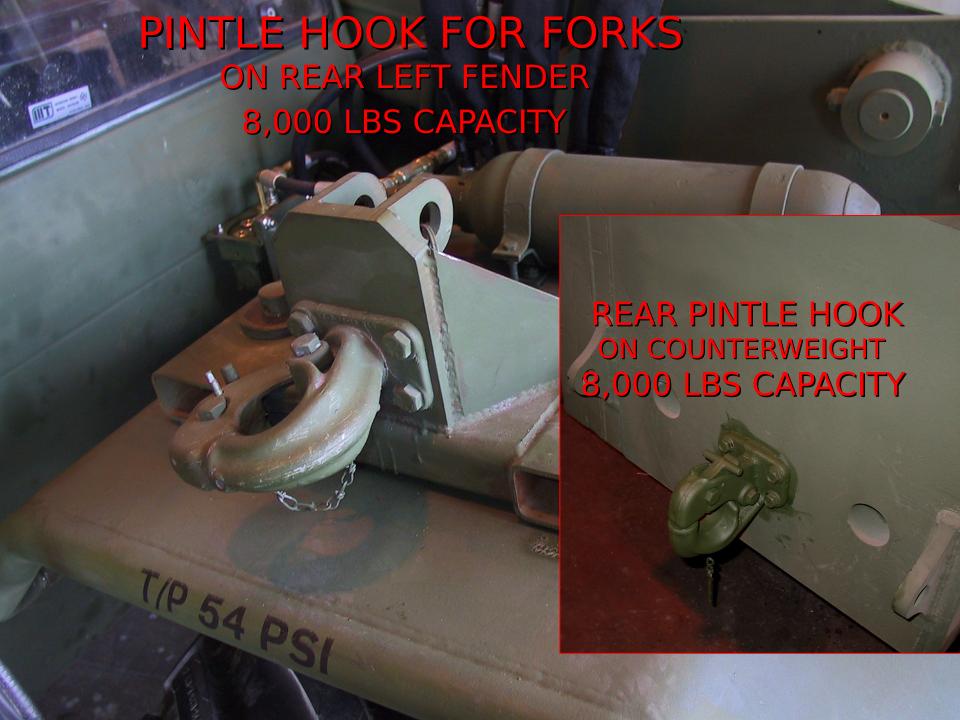


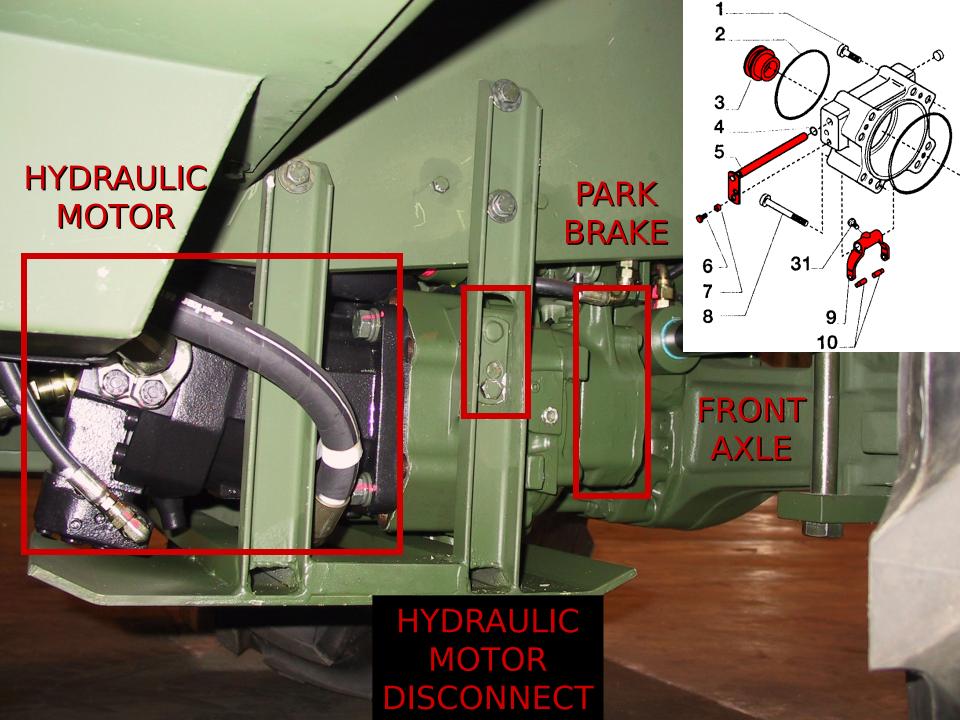
2 WHEEL

4 WHEEL

**CRAB** 







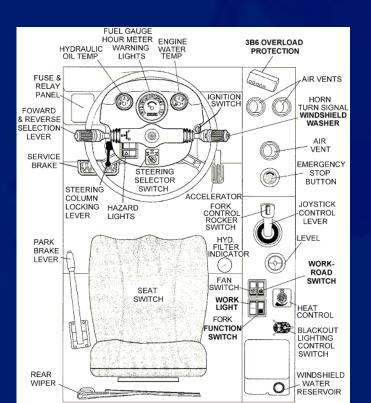
# **Missio**

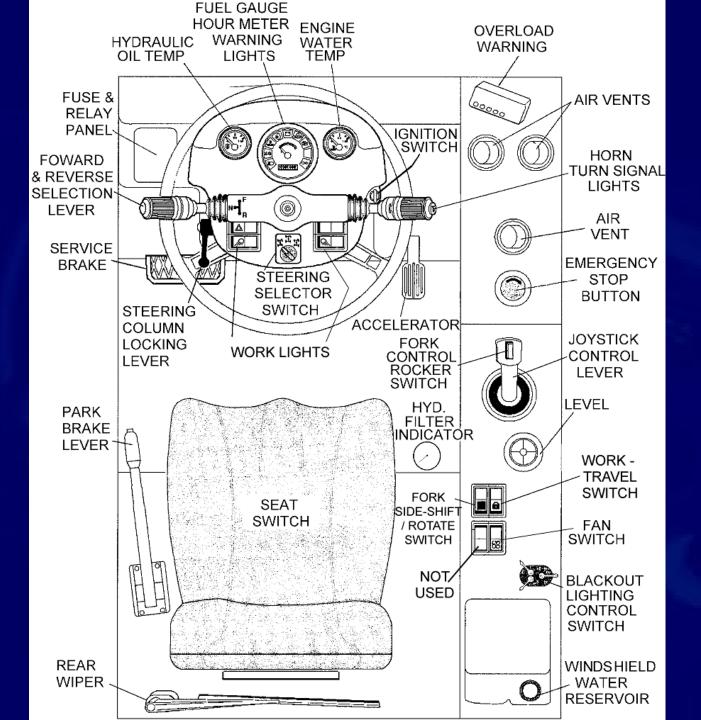
n:

To load and unload palletized cargo from trucks, trailers, aircraft, ships, and ISO containers.

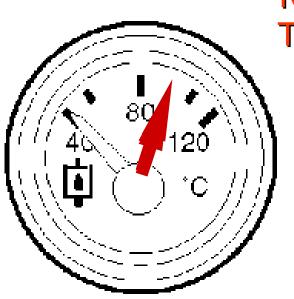
#### **SECTION 4**

# CONTROLS & INSTRUMENTS



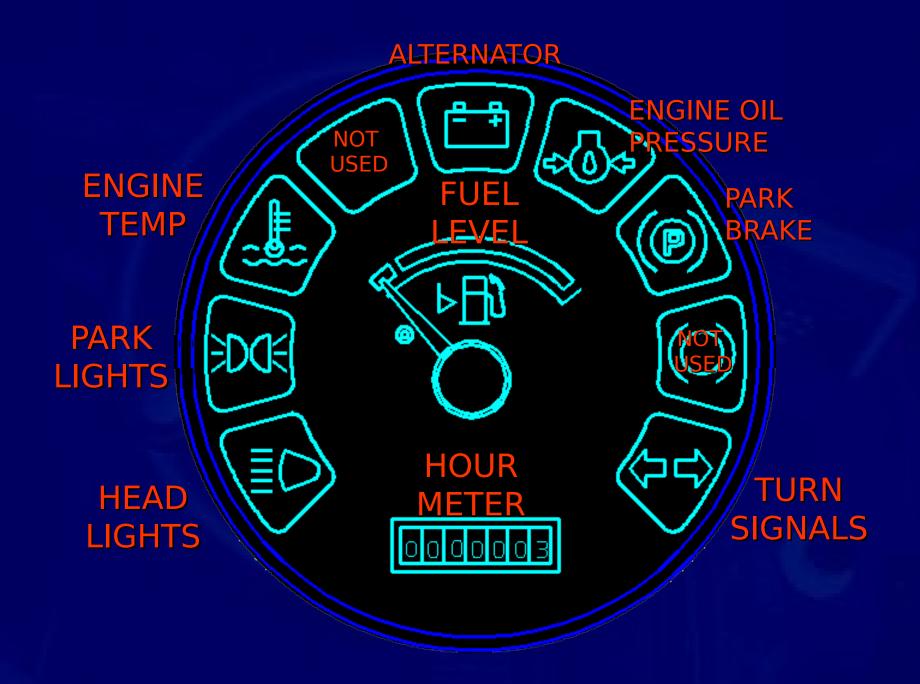


**Hydraulic Oil Temperature Indicator** – Indicates the oil temperature within the reservoir.

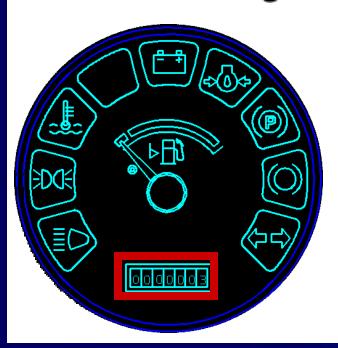


NORMAL OPERATING TEMP 70 DEGREES C 140°F

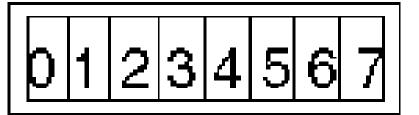
HI TEMP 90°C



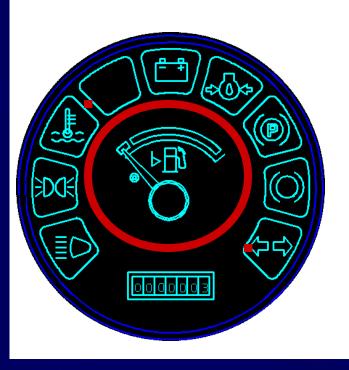
 a. Hourmeter – This indicates the running time of the engine in hours.

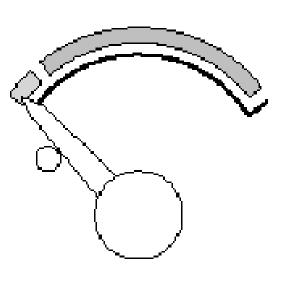


**USED FOR SERVICING** 

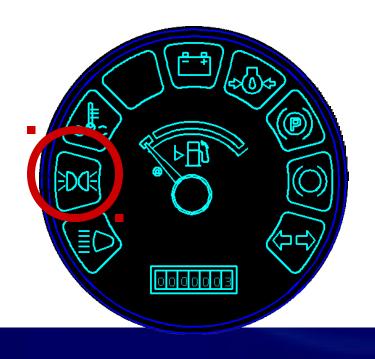


b. Fuel Gauge – Indicates the amount of fuel remaining in the fuel tank.



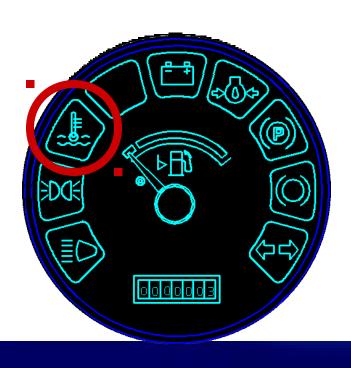


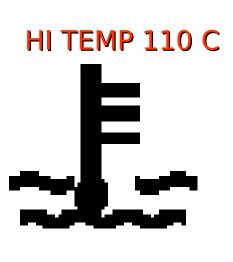
 c. Hazard Light – Green indicator signaling when position lights are ON.



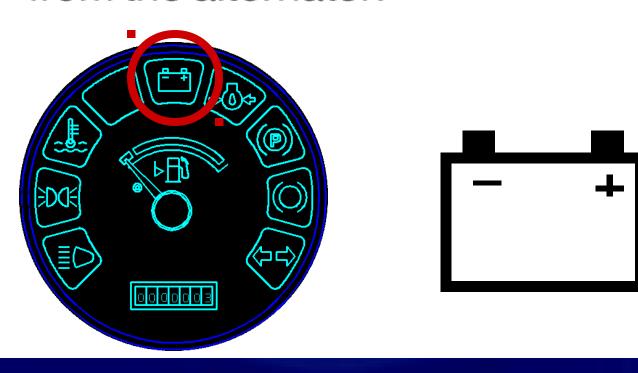


d. Water Temperature Indicator – Indicates when engine coolant is overheated.

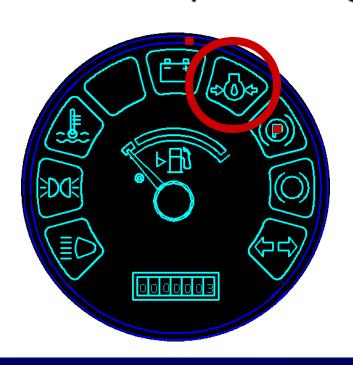




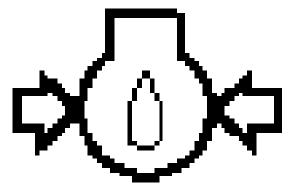
e. Low Battery Charge – Signals a low charge from the alternator.



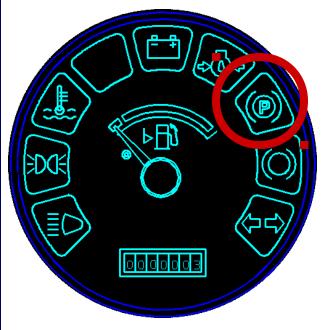
f. Low Engine Oil Pressure – This indicator will light up when engine oil pressure is too low. Stop the engine.



BELOW .8 BAR / 12 PSI

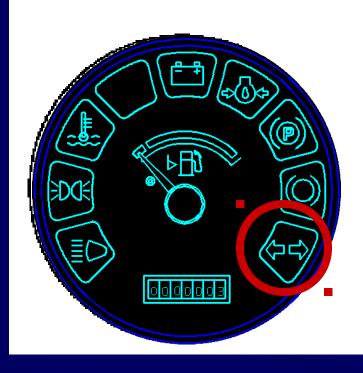


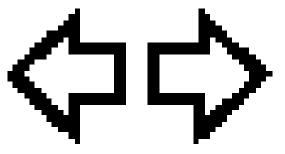
g. Parking Brake Engaged – Indicates the parking brake is engaged. PARK BRAKE MUST BE ENGAGED TO START ENGINE





Turn signal Indicator – Green indicator signaling when turn signals are ON.

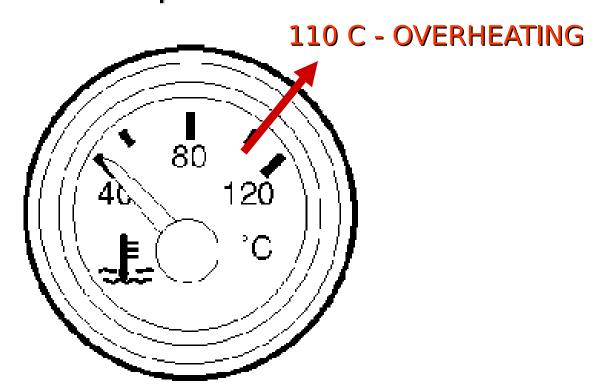






NAME THE INDICATOR LIGHTS

Engine Coolant Temperature – Indicates the engine coolant temperature.

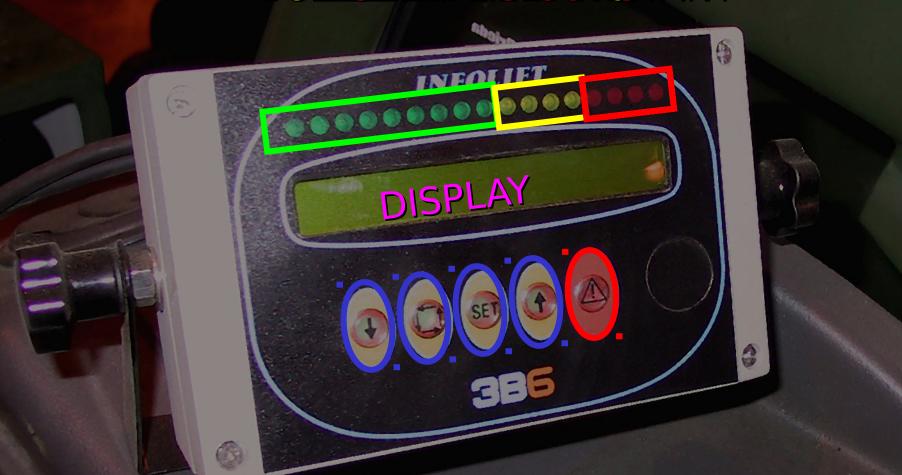


 Ignition Switch - This switch is used to energize the electrical system of the machine and start the machine.

REWITE In ROSITION Starter motor for more that to seconds at a time. If engine fails to take Wifficht attempt, release switch lever and that the lever and that the lever are trying again.



## 0 - 90% CAPOACITOO% CAPMERINOAD NORMBOOMEDEWAW&REXTIEND MOTION CUT BUZBUFRZISRBEEPONSTANT



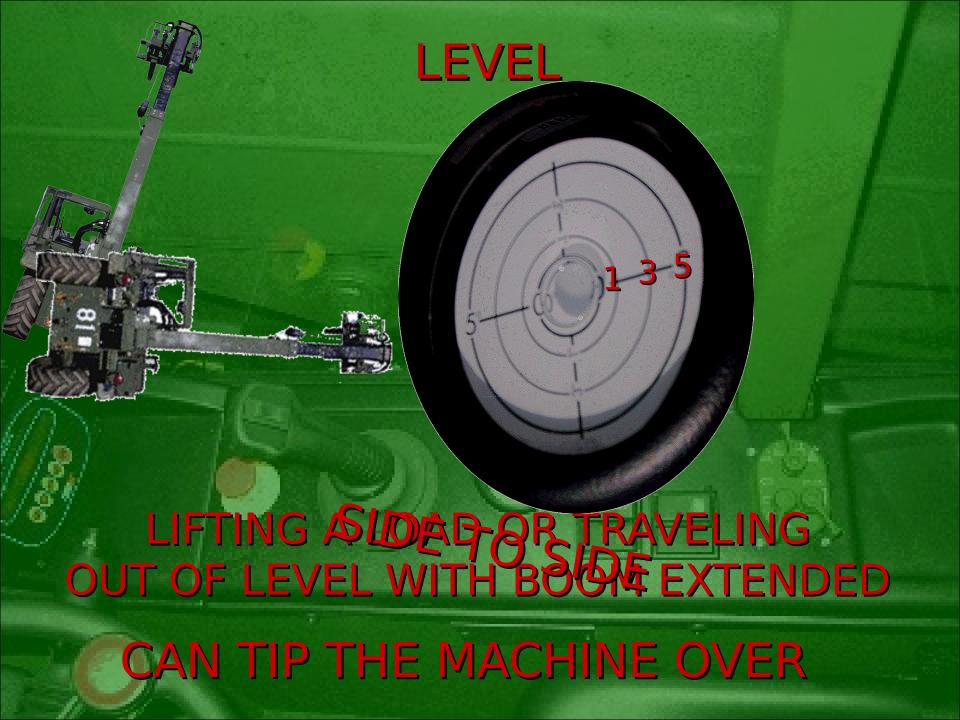
USED FOR ACCURACY VERIFICATION

OVERLOAD LIGHT & BYPASS BUTTON



CUTS POWER TO THE IGNITION SWITCH & FUEL SOLENOID WHEN DEPRESSED





# 2 SPEED DEFROSTER & HEAT FAN SWITCH





### WORK - TRAVEL SWITCH



TO PREVENT ACCIDENTAL
OPERATION OF THE FORK &
STEERING FUNCTIONS WHILE
TRAVELING WITH A LOAD

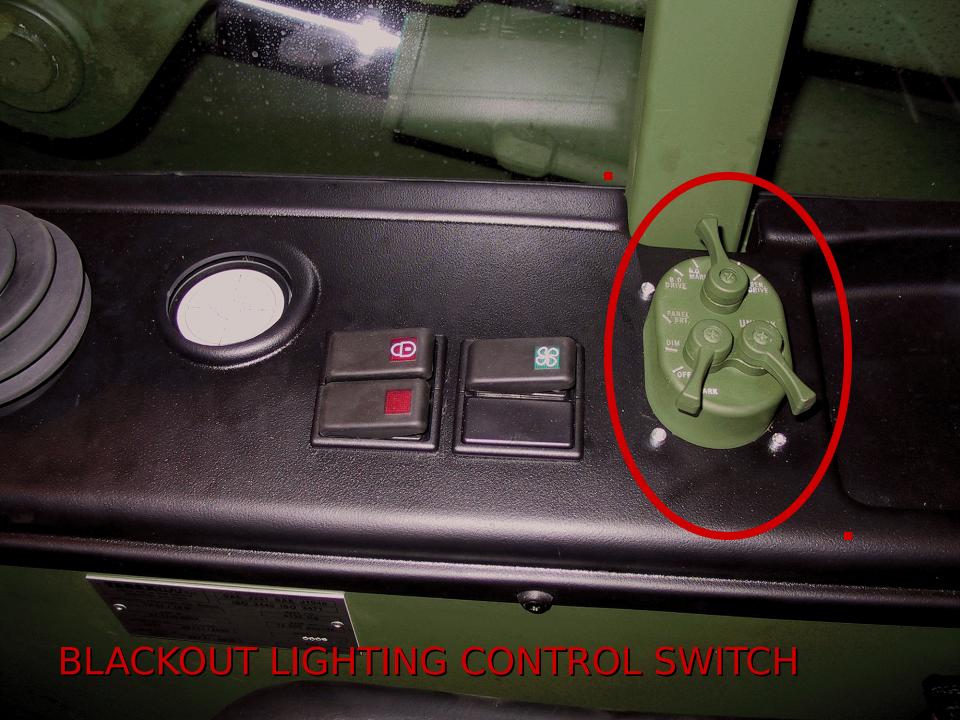


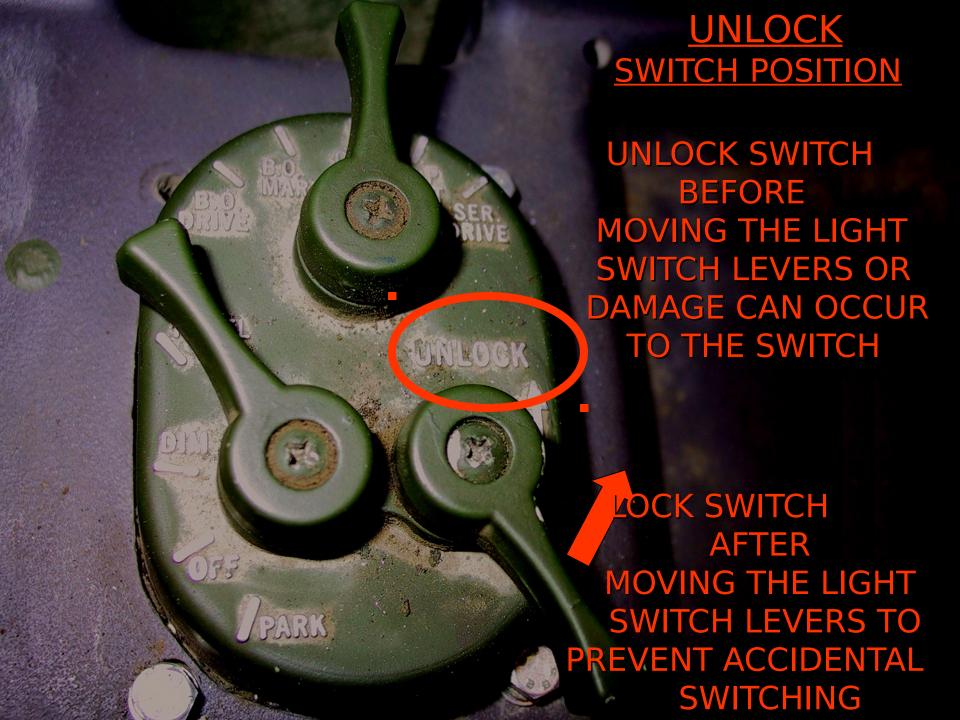
WORK MODE

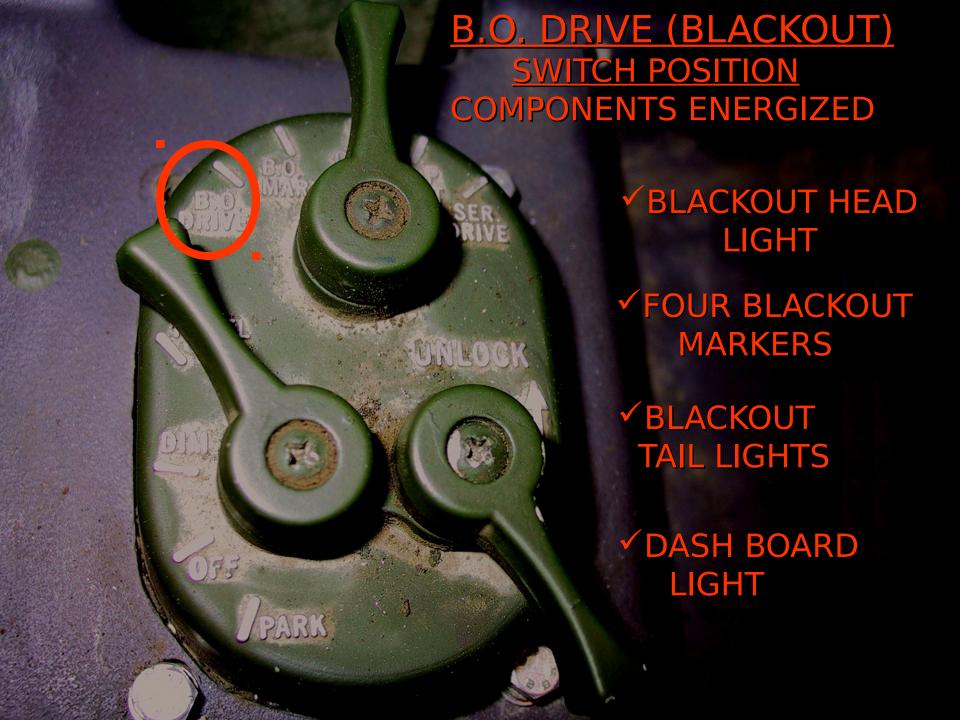
TRAVEL MODE

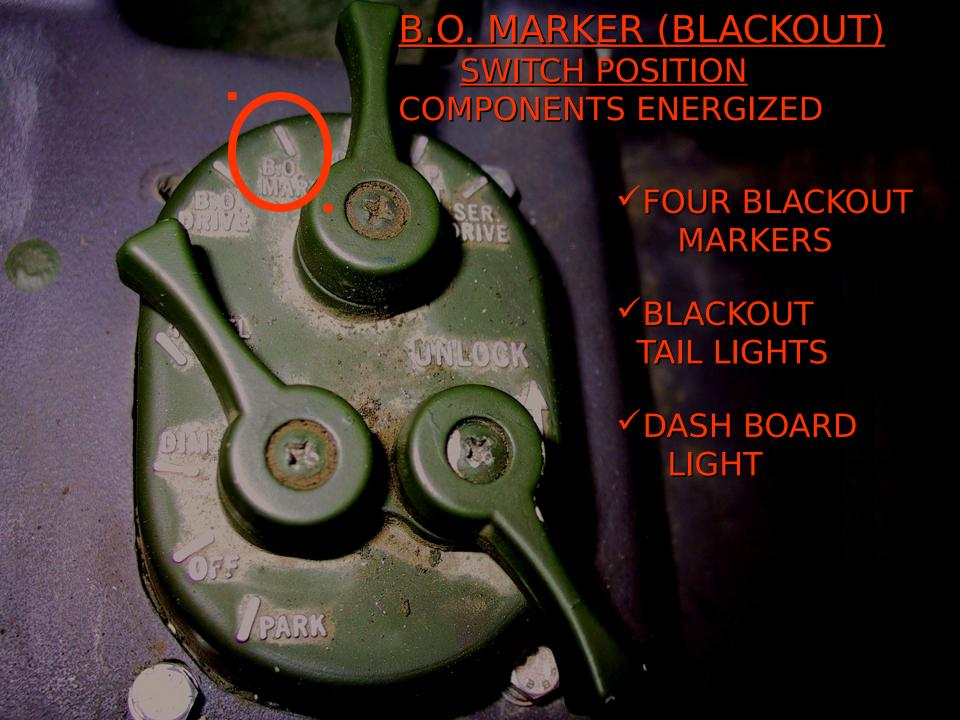


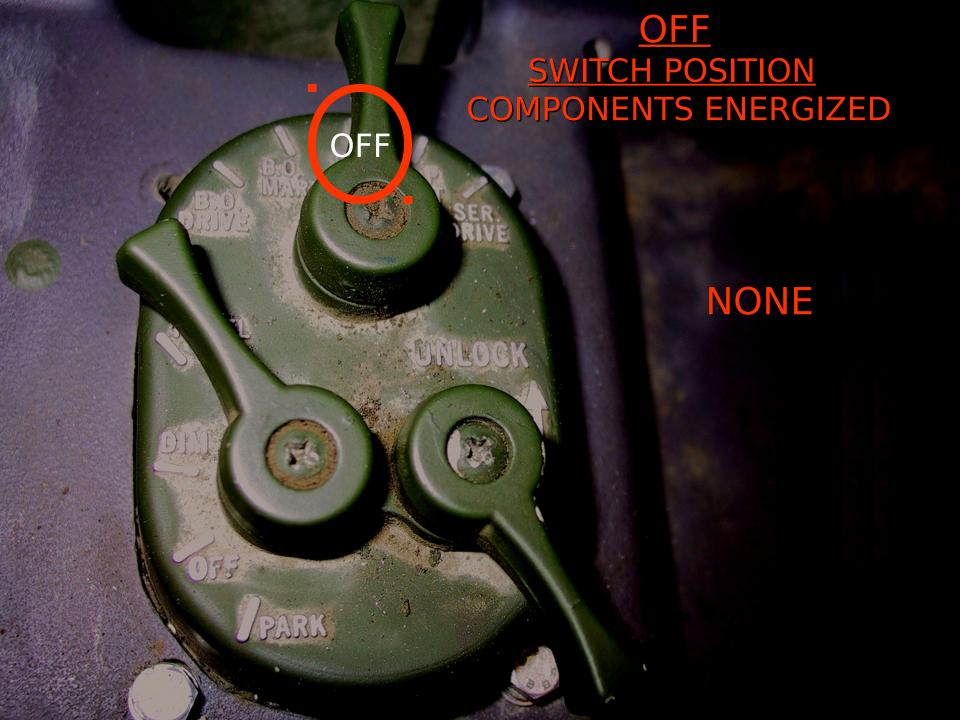
NORMAL HANDLING OPERATION LOCK-OUT FORK TILT, SIDESHIFT, ROTATE, CRAB OR 4-WHEEL STEER FUNCTIONS

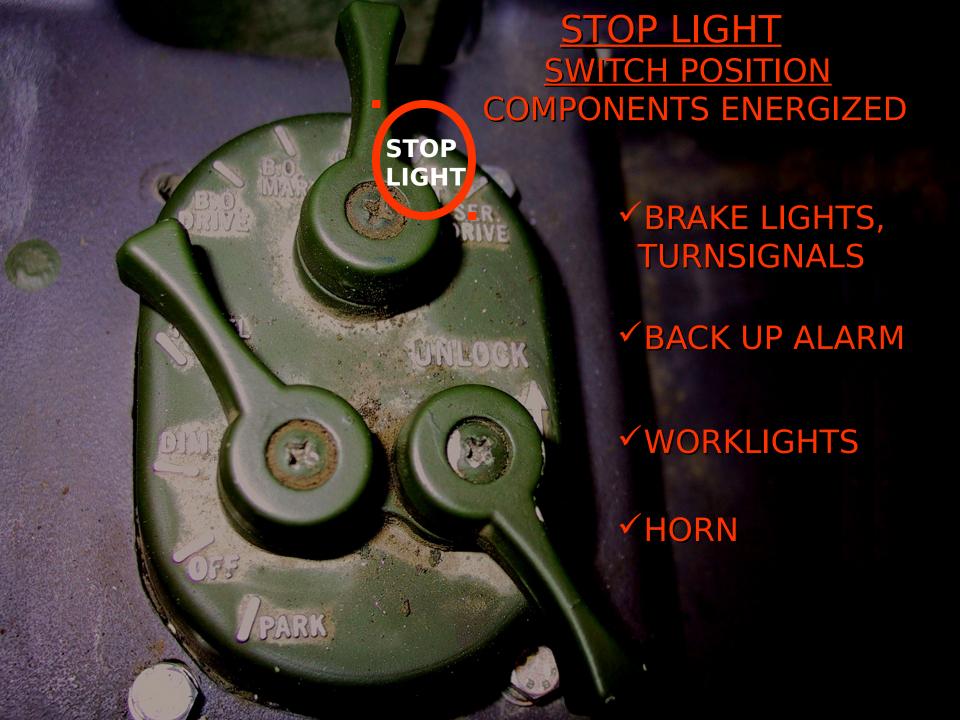




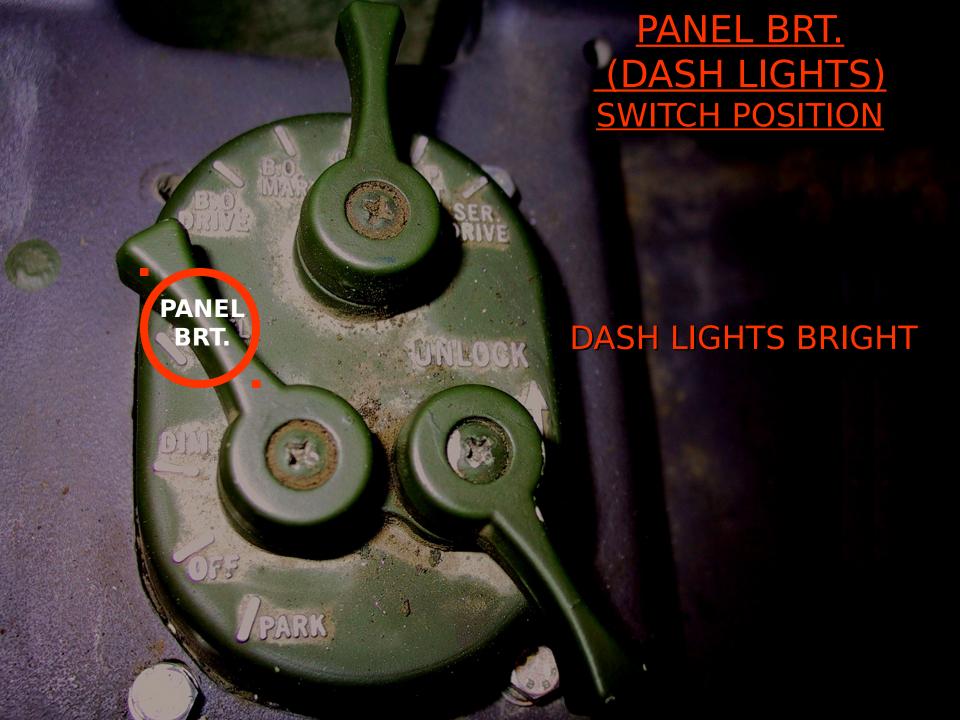


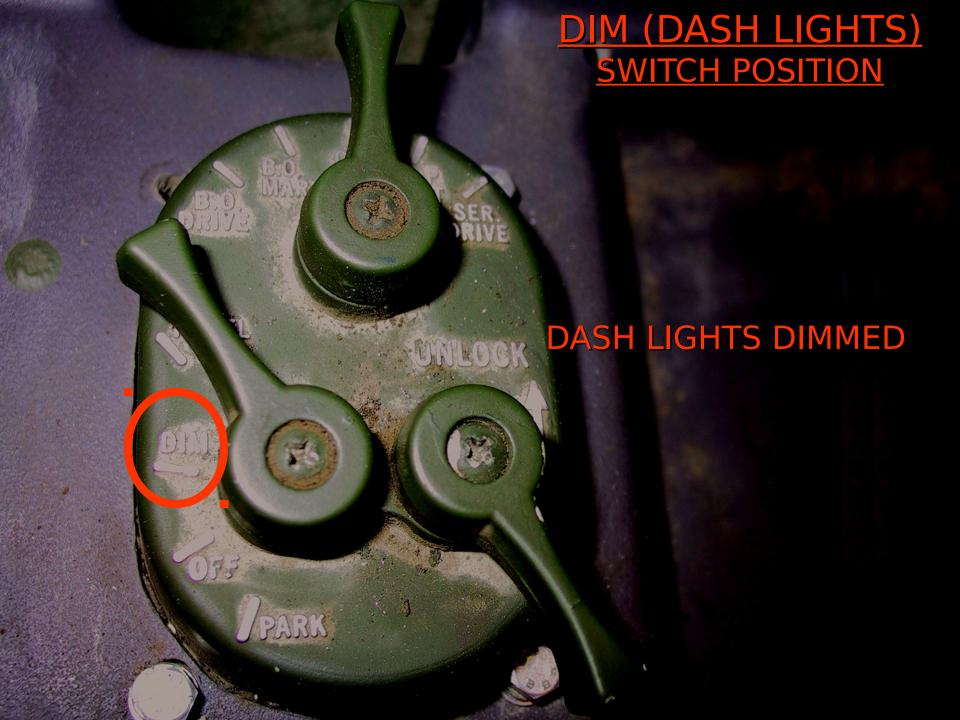


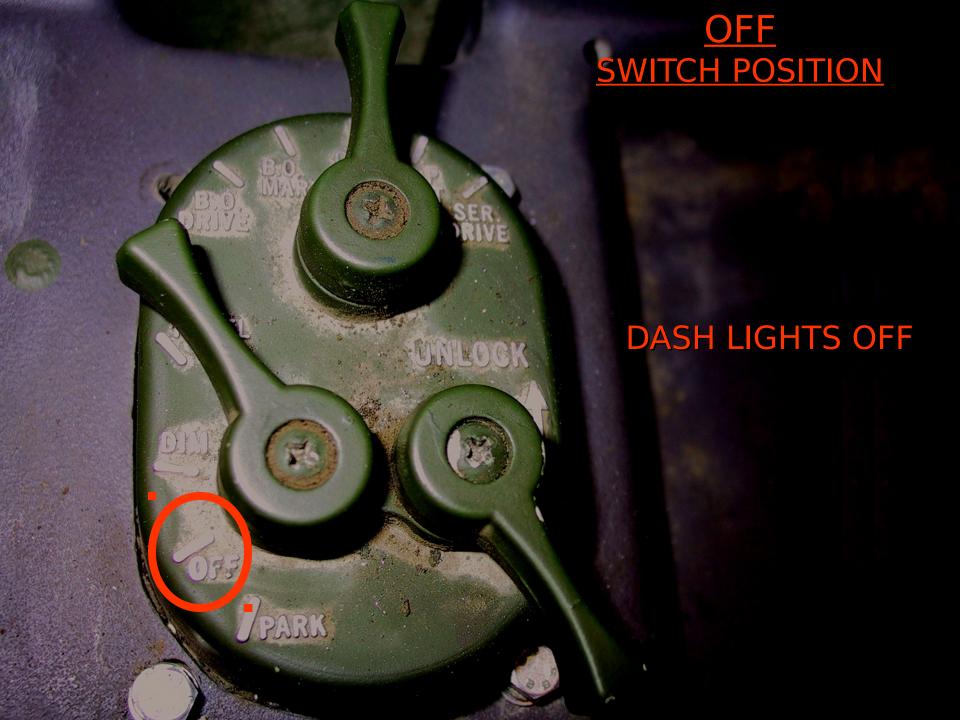


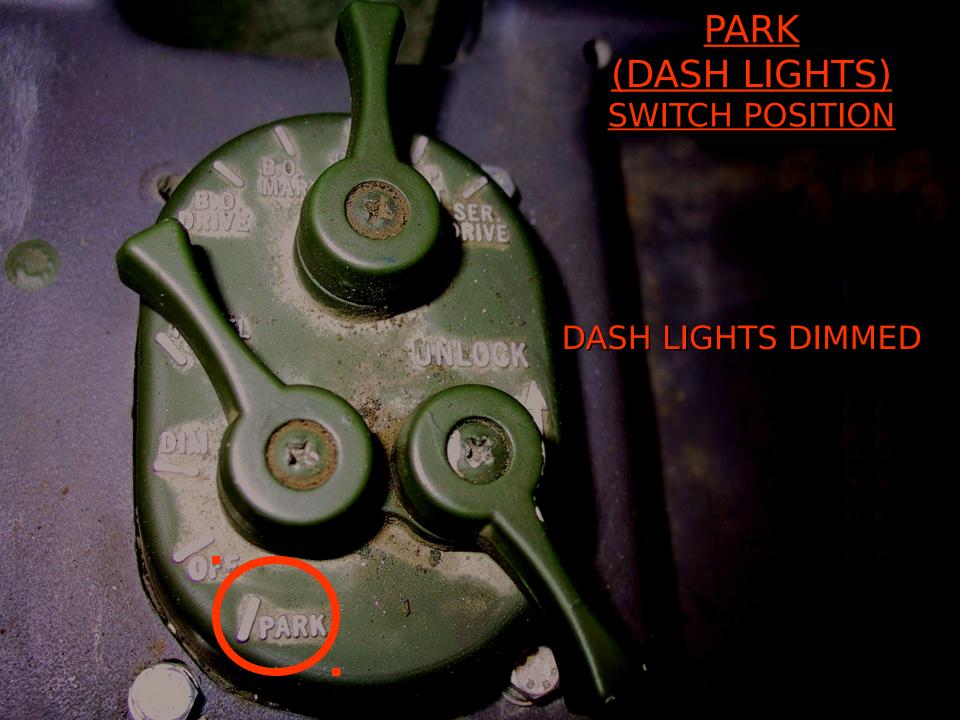






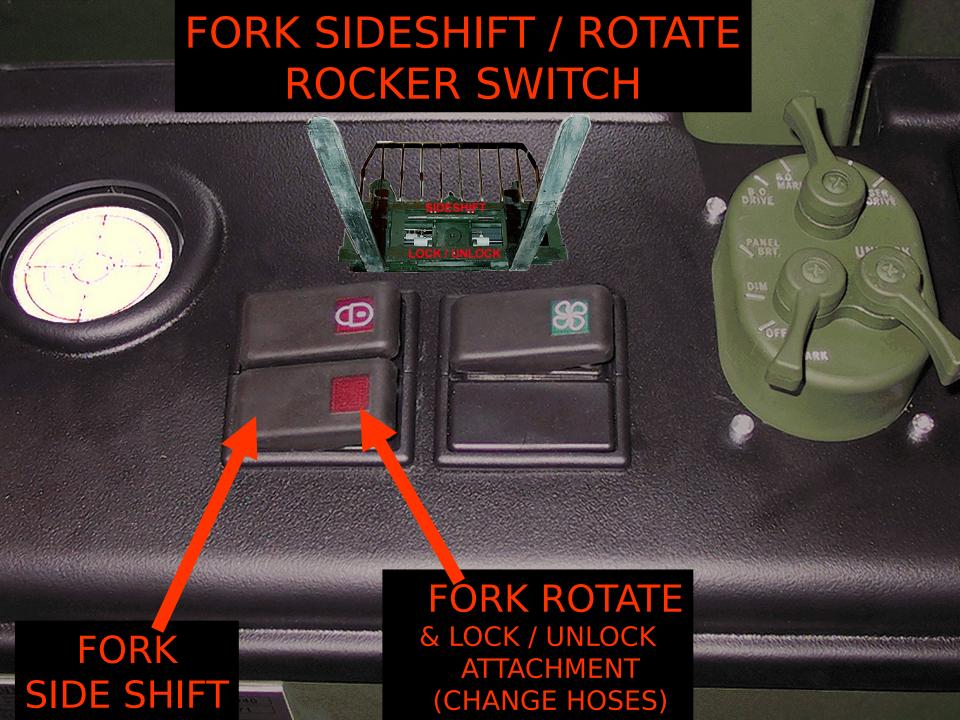












### DIRTY TRANSMISSION FILTER INDICATOR



YELLOW:
GETTING CLOSE TO
CHANGING FILTER

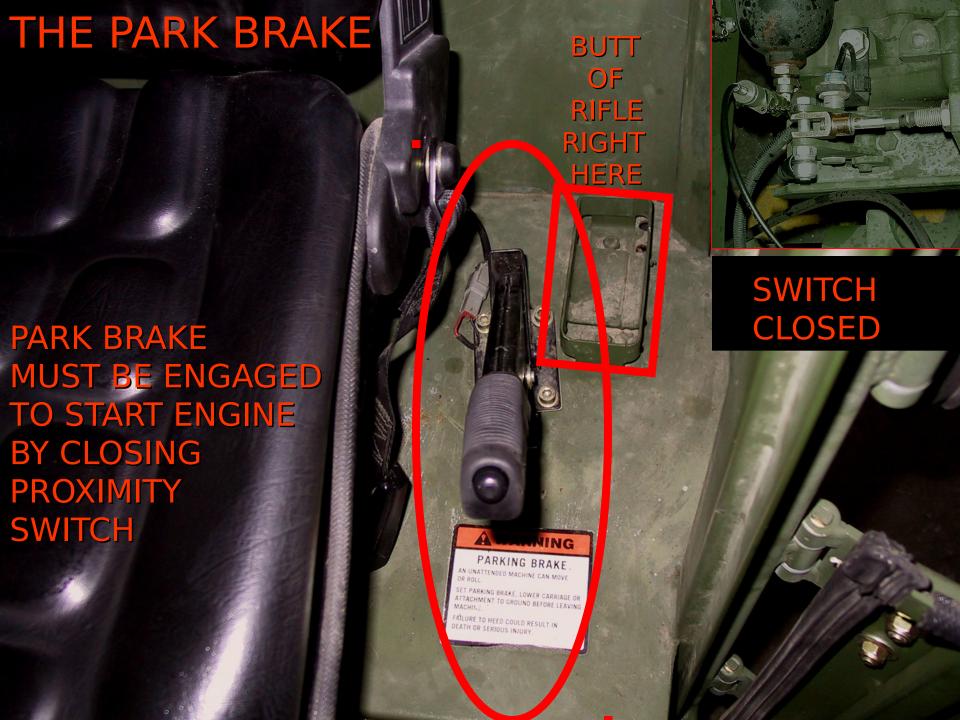
COLD OIL WILL
CAUSE HIGH
READINGS

SEAT

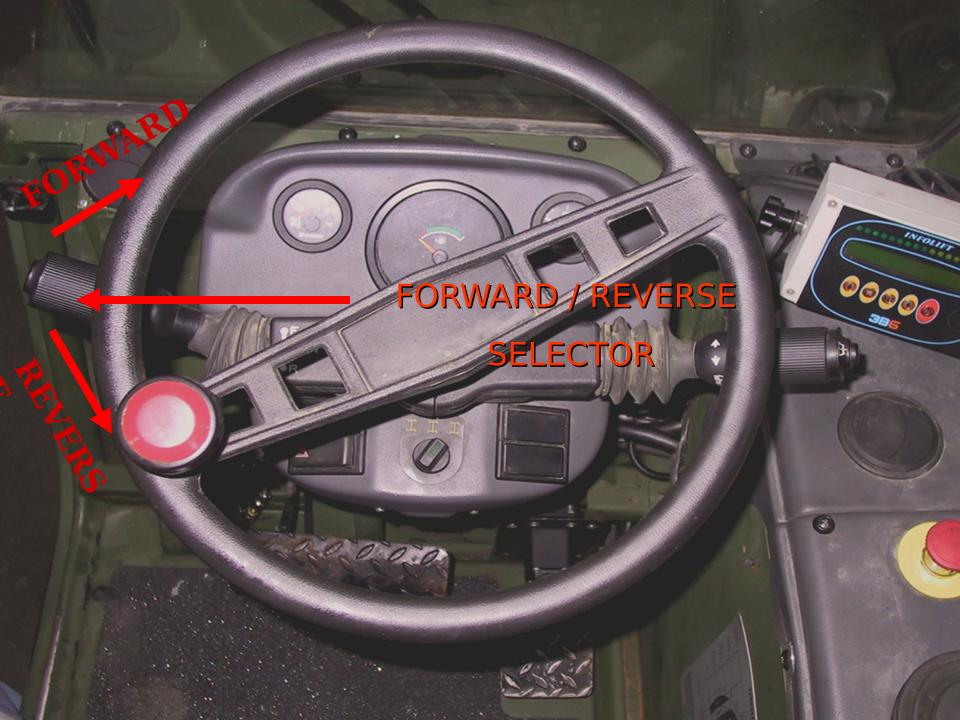
RED: CHANGE THE FILTER



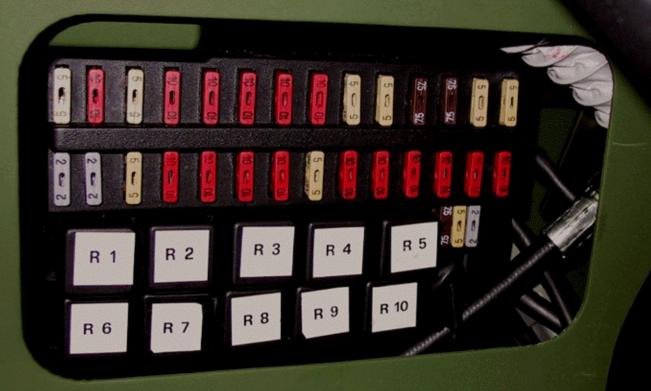








### FUSE & RELAY PANEL



LEFT OF STEERING COLUMN







### STEERING SELECTOR



#### **STEERING MODES**







2 WHEEL

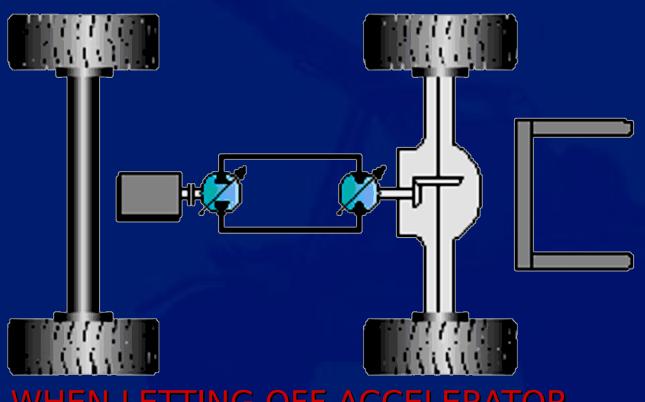
4 WHEEL

**CRAB** 





# TRANSMISSION HAS DYNAMIC BRAKING

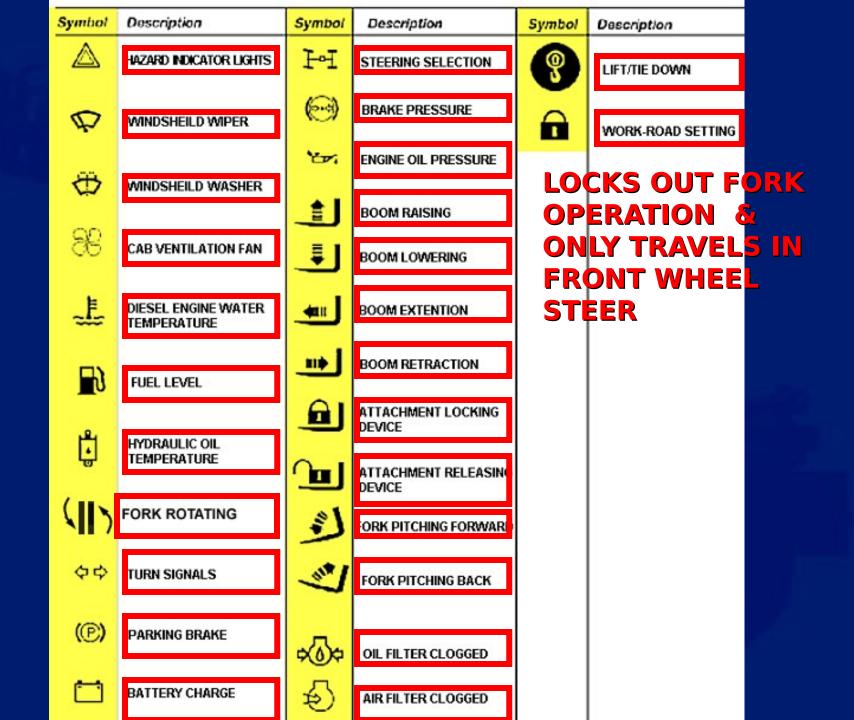


WHEN LETTING OFF ACCELERATOR
THE MACHINE COMES TO A STOP
WITH OUT USING THE BRAKE PEDAL





#### **SYMBOLS ON THE MACHINE**

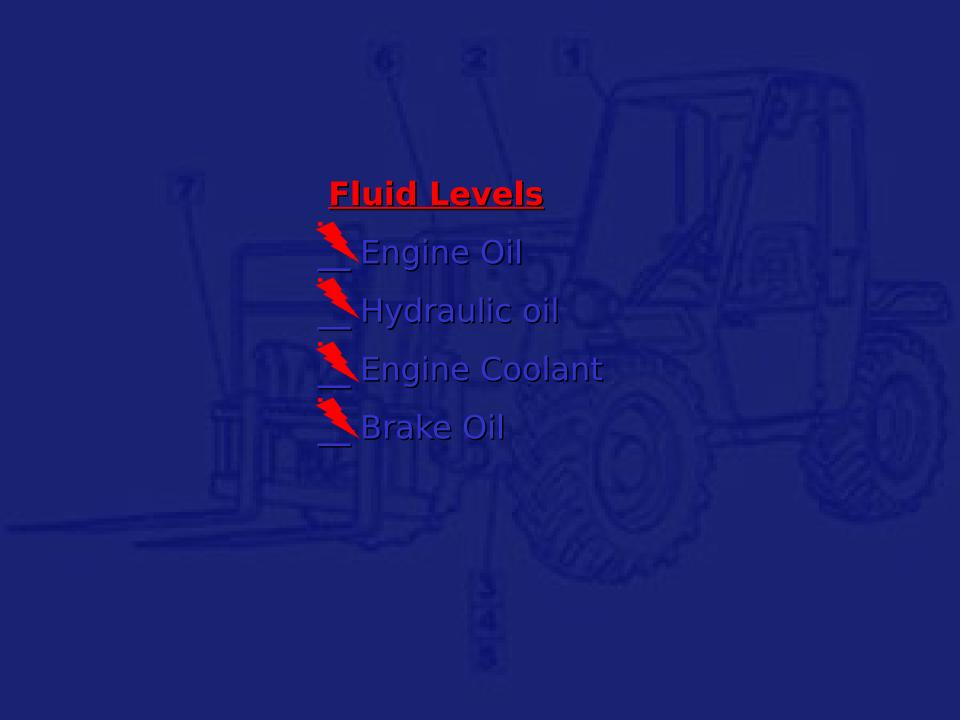


## **BASIC OPERATIONS**

# BEFORE STARTING THE ENGINE CHECK THE ITEMS BELOW FOR SAFE CONDITIONS

#### **Machine Condition**

- Fluid Leaks
- All Windows Clean
- All Lights Clean
- Tires and wheels
- Operators Manual in Cab
- Guards in Place
- Boom Slide Pads
- \_\_\_Engine Air Cleaner
  - Engine Fuel Pre-Filter

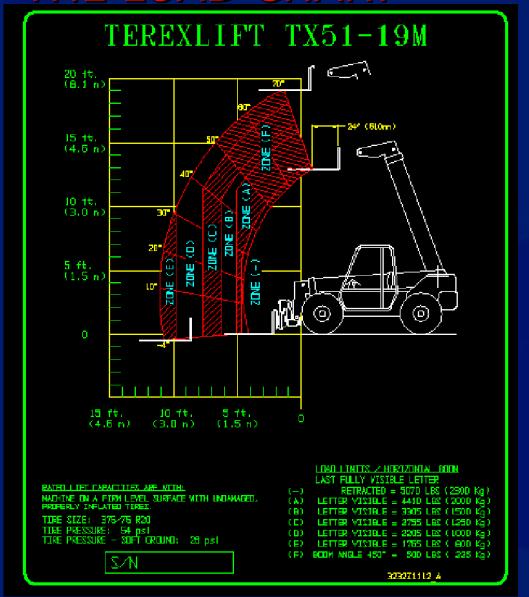


# BEFORE OPERATING THE MACHINE VERIFY FOR SAFE AND PROPER OPERATION CONTROL / FUNCTIONS

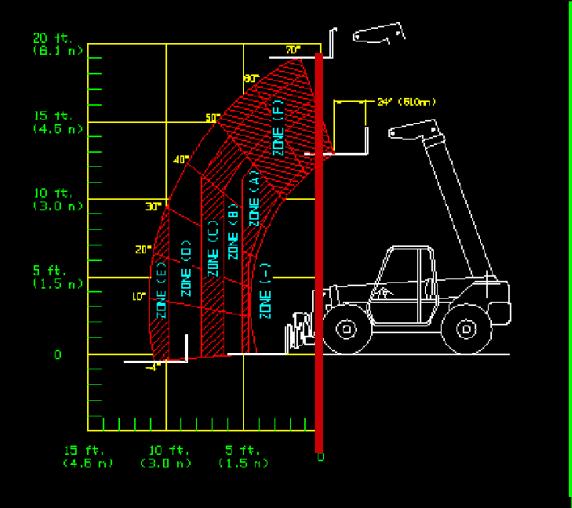
Horn Gauges **Brake Lights** Reverse Lights Head Lights Turn Signal Lights Black out Lights Wipers Front/Rear Park Brake Forward/Reverse Service Brake

Accelerator Back Up Alarm Steering All 3 Selections Wheel Alignment Boom Up/Down Boom Telescope Out/In Fork Tilt Up/Down Fork Side-Shift Left/Right Fork Rotate CW/CCW Work Travel Switch Secondary Steering

#### THE LOAD CHART

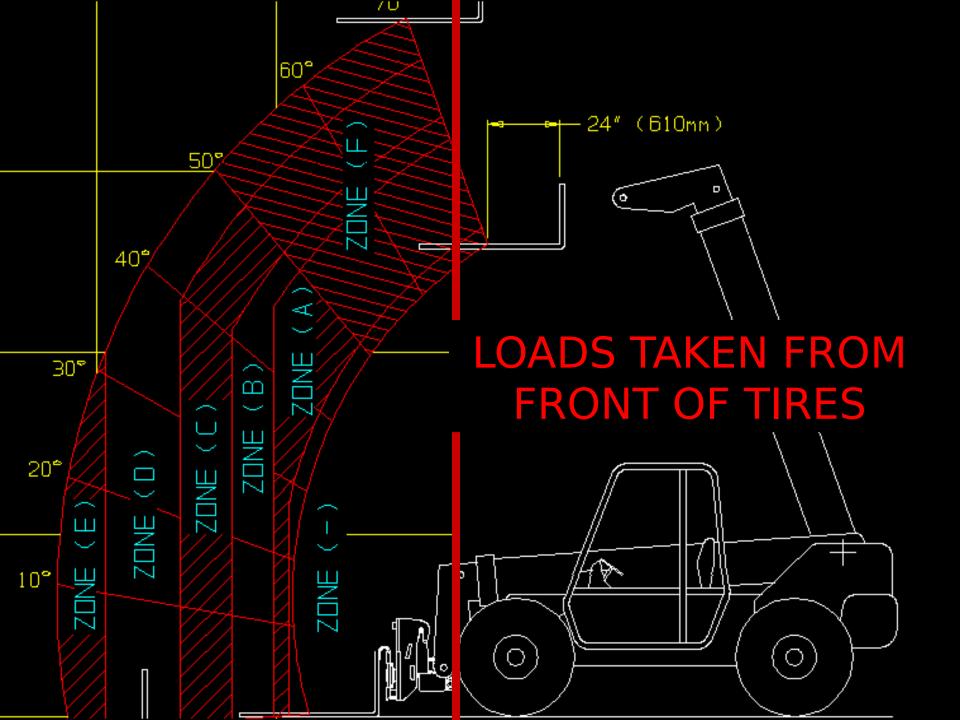


#### • PAYLOAD AT MAX. HEIGHT LB 500 8"



#### LOADS TAKEN FROM FRONT OF TIRES





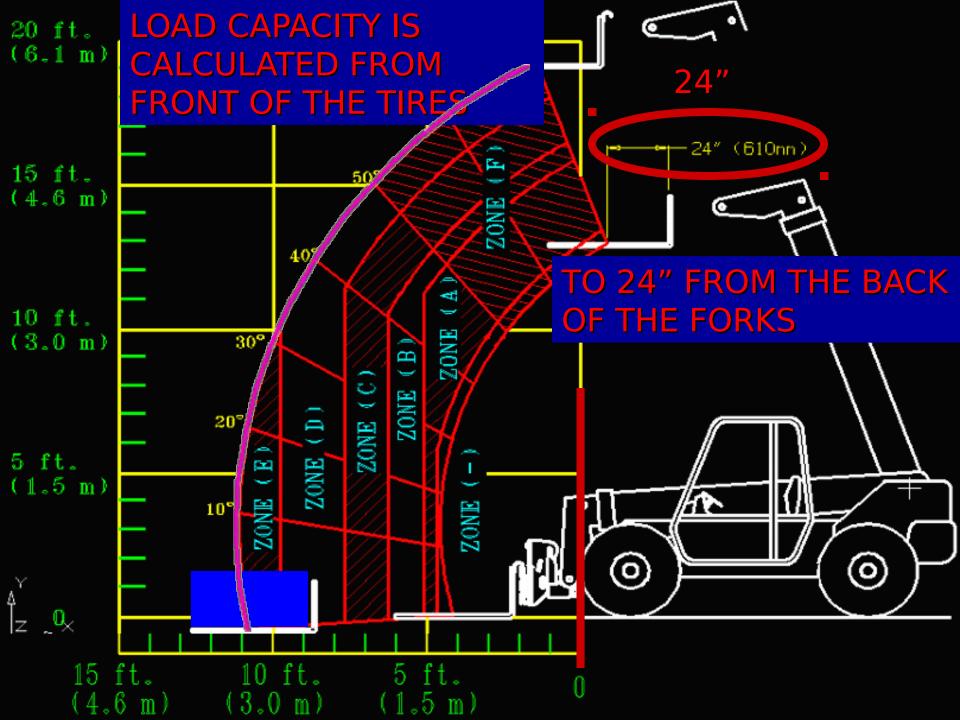
#### ZONES

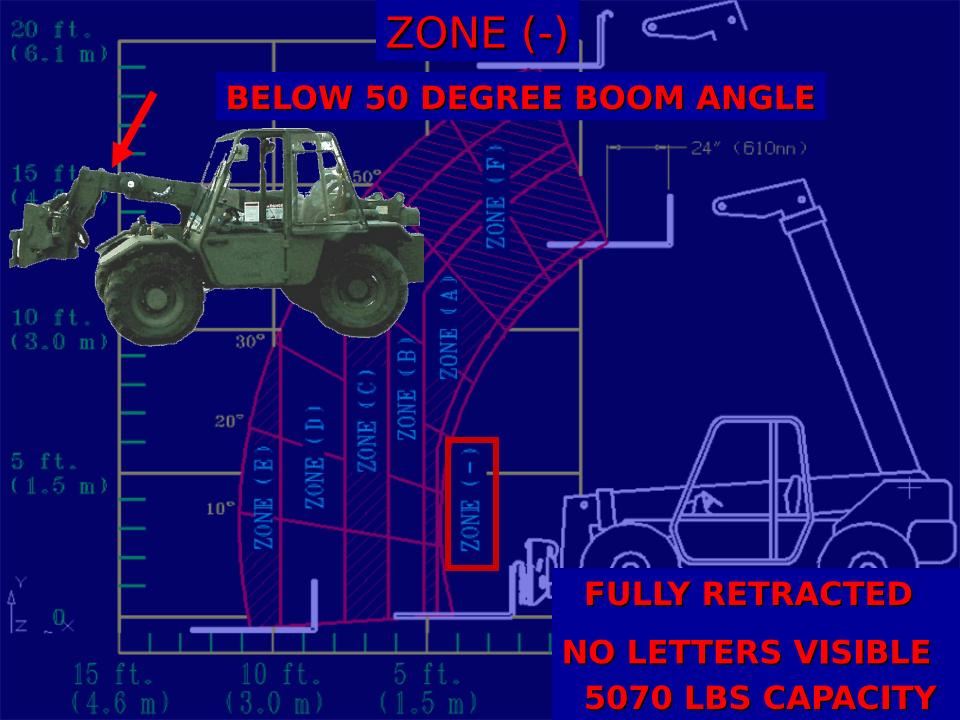


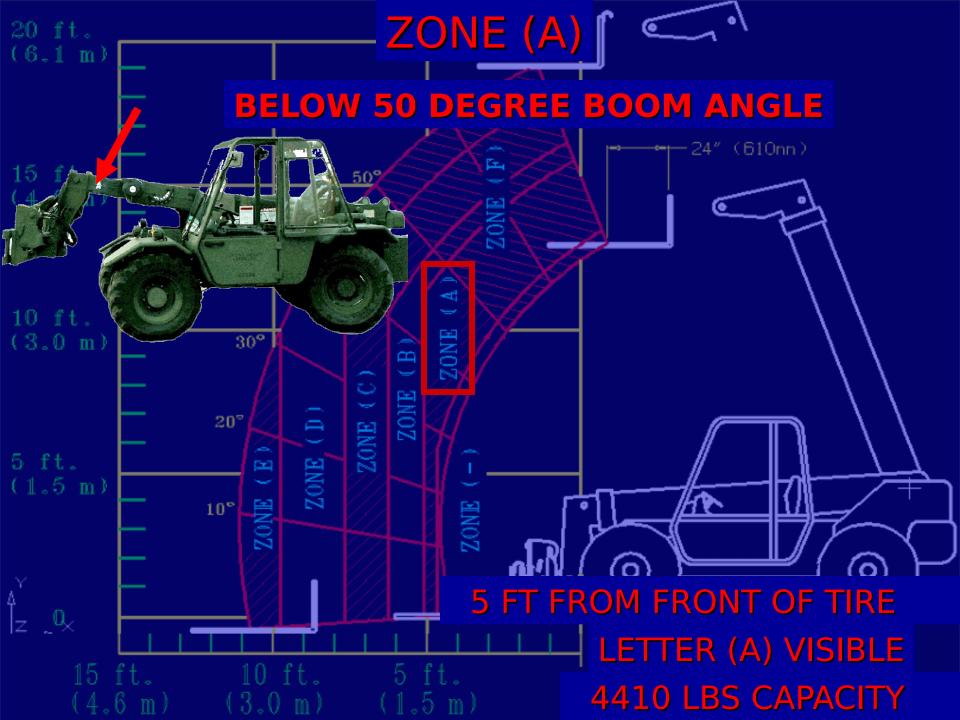
### LUAU LIMITS / HORIZONTAL BOOM

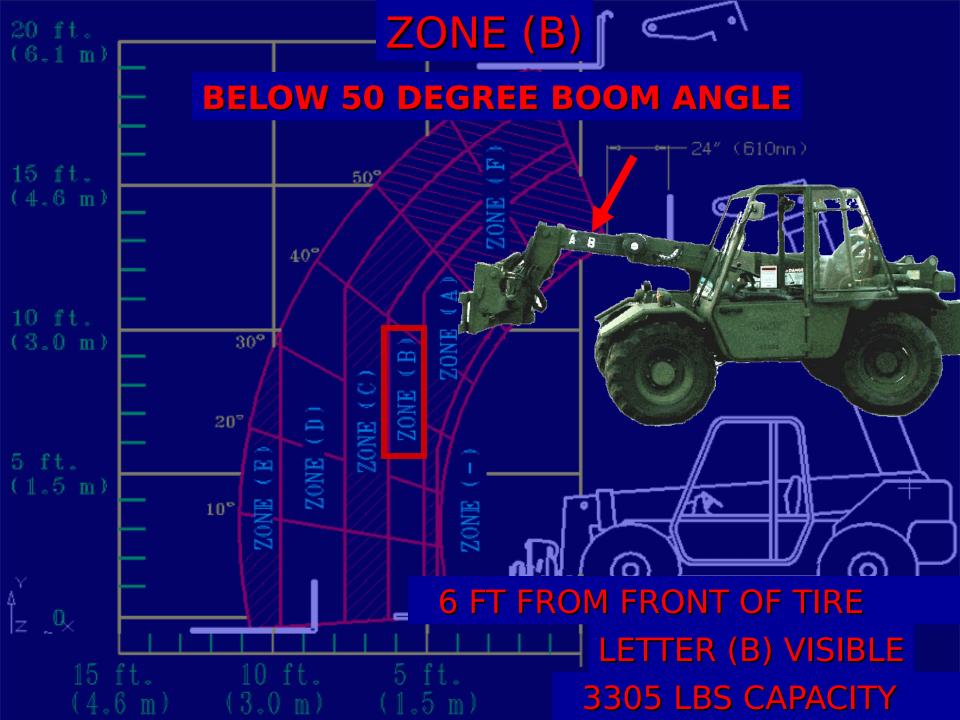
LAST FULLY VISIBLE LETTER

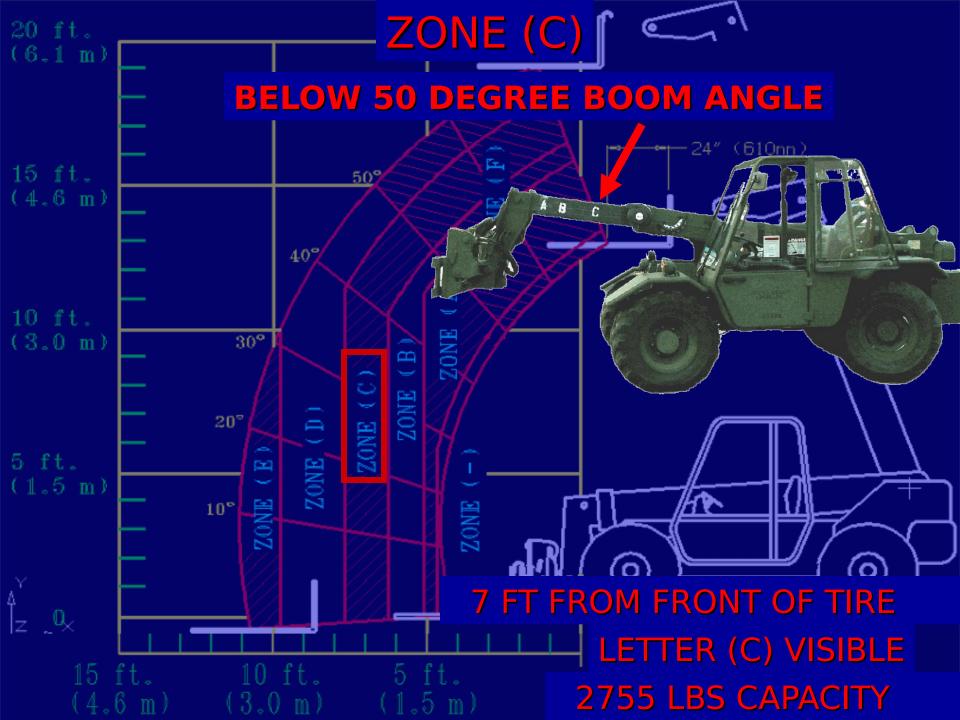
$$(-)$$
 RETRACTED =  $5070$  LBS (2300 Kg)

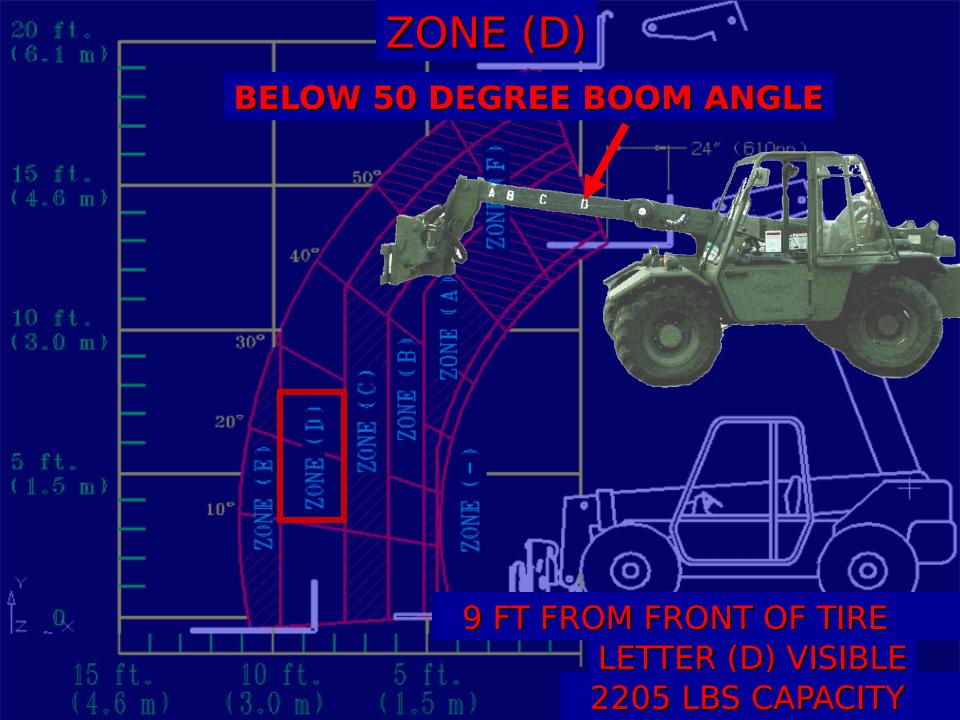


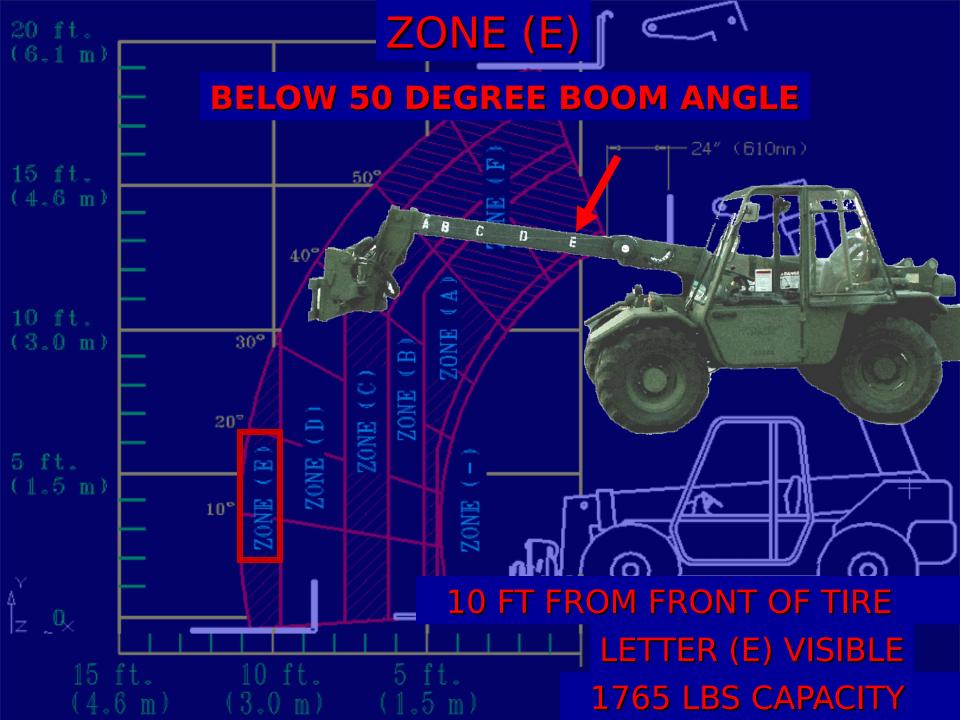










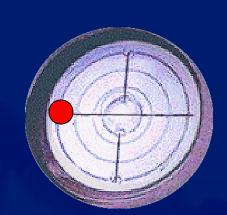




#### MORE THAN 50 DEGREE BOOM ANGLE

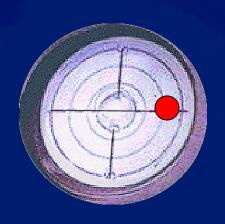
15 ft. 500 LBS CAPACITY (4.6 m) (3.0 m) (1.5 m)



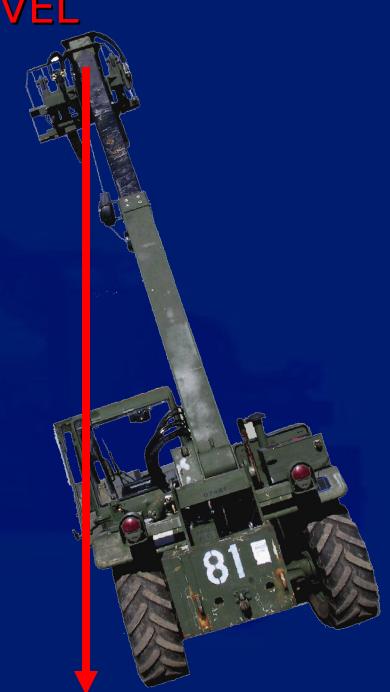


DO NOT CARRY OR LIFT LOAD WITH MACHINE OUT OF LEVEL

#### MACHINE LEVEL



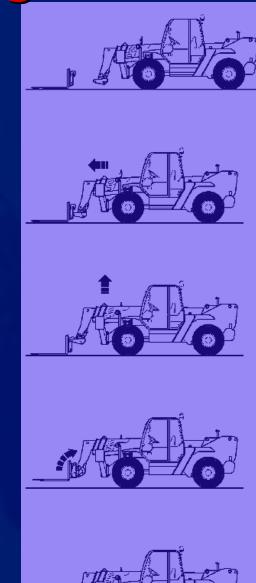
DO NOT CARRY OR LIFT LOAD
WITH MACHINE OUT OF LEVEL



## CHANGING ATTACHMENTS

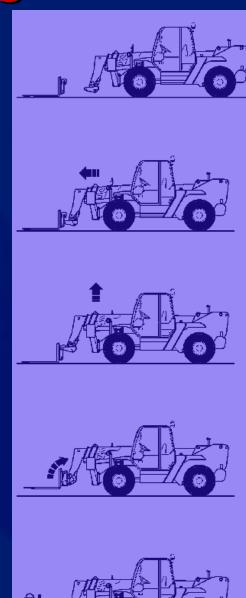
#### TO CHANGE ATTACHMENTS

- 1. DRIVE TO LEVEL GROUND.
- 2. DISCONNECT THE QUICK
  DISCONNECT COUPLINGS OF ROTATE
  CYLINDER AND CONNECT TO
  ATTACHMENT LOCK / UNLOCK
  CYLINDER. DISCONNECT THE SIDESHIFT
  CYLINDER QUICK DISCONNECT
  COUPLINGS.
- 3. OPERATE JOYSTICK TO RETRACT THE ATTACHMENT LOCK/UNLOCK CYLINDER ENDS FROM THE FORK ATTACHMENT.



#### TO CHANGE ATTACHMENTS

- 4. OPERATE JOYSTICK TO BOOM DOWN
  TO LOWER FORK ATTACHMENT
  TO GROUND.
- 5. OPERATE JOYSTICK TO TILT FORWARD AND LOWER THE BOOM TO RELEASE FORK ATTACHMENT.
- 6. MOVE MACHINE BACKWARDS



#### **TOWING THE MACHINE**

#### TRANSPORTING THE MACHINE

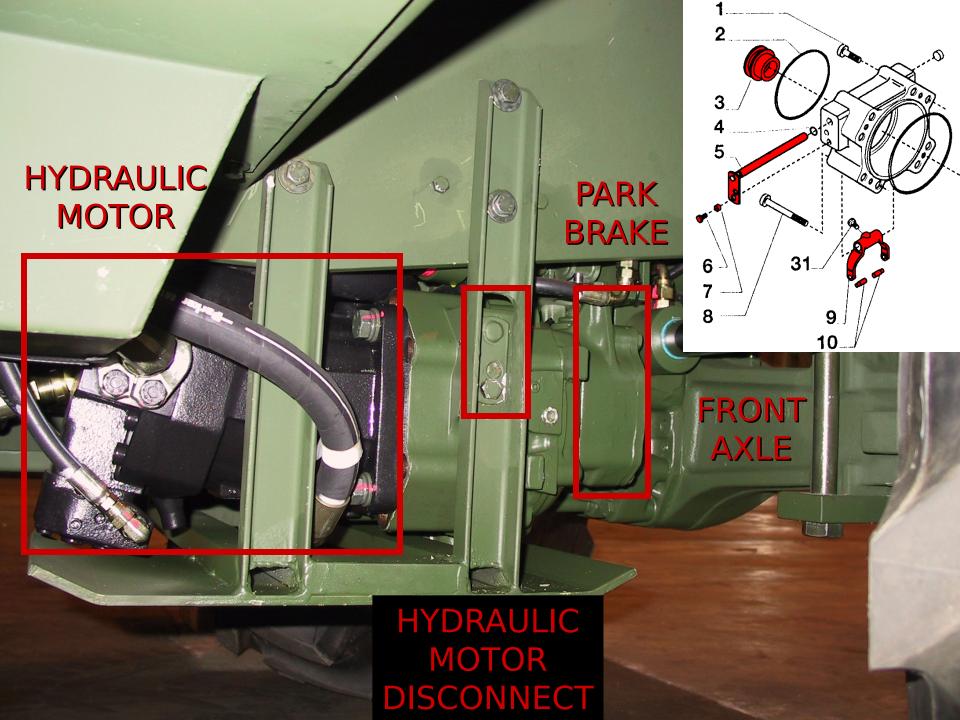
#### **TOWING**

EACH TOWING SITUATION PRESENTS SPECIAL PROBLEMS, WHICH CANNOT BE ANTICIPATED IN ADVANCE. THEREFORE, THE FOLLOWING PROCEDURES ARE GENERAL IN NATURE. ADDITIONAL STEPS MAY ALSO BE NECESSARY TO SAFELY TOW THE MACHINE UNDER A GIVEN SET OF CIRCUMSTANCES. IF IT BECOMES NECESSARY TO TOW THE MACHINE, PROCEED AS FOLLOWS:

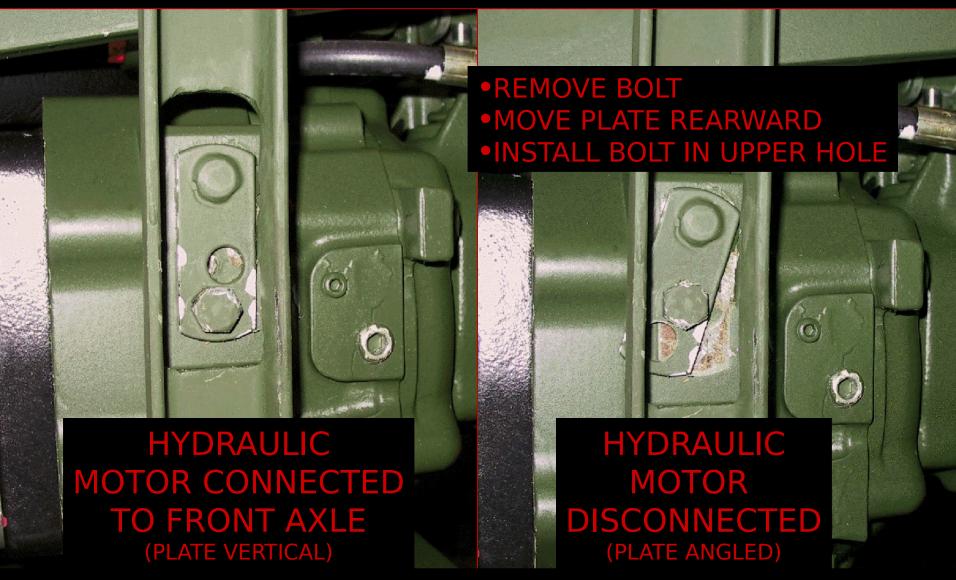
1. ATTACH A TOW BAR FROM THE TOWING VEHICLE TO THE TOWING LUGS ON REAR OF MACHINE.

#### TIE DOWN

- 2. TOW THE MACHINE AT A LOW SPEED ONLY.
  MAXIMUM SPEED 20 MPH.
- 3. SELECT THE TWO-WHEEL STEER.
- 4. DISCONNECT THE HYDRAULIC MOTOR FROM THE THE AXLE.
- 5. MOVE SPEED SELECTION LEVER TO NEUTRAL AND RELEASE PARK BRAKE.



# BEFORE TOWING IT IS IMPORTANT TO DISCONNECT THE HYDRAULIC DRIVE MOTOR FROM THE AXLE

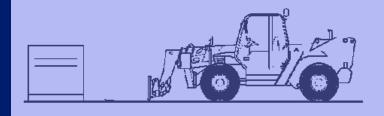


FAILURE TO DISCONNECT HYDRAULIC MOTOR FOR TOWING WILL DAMAGE THE HYDRAULIC TRANSMISSION SYSTEM

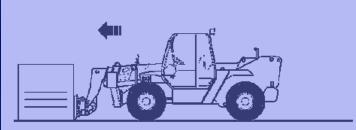
## EMPLOYMEN T

#### LOADING PHASE

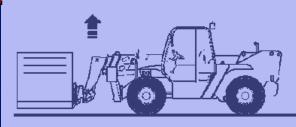
1. APPROACH THE LOAD SQUARE.



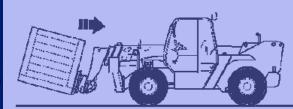
2. INSERT THE FORKS UNDER
THE LOAD AND RAISE LOAD
A FEW INCHES TO CHECK
STABILITY SIDE TO SIDE. MAKE
SURE LOAD IS AGAINST FORK
CARRIAGE.



3. TILT FORKS BACK AND MAKE



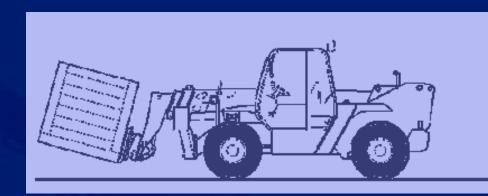
SURE THAT THE OVERLOAD WARNING SYSTEM LED'S ARE



OK

#### TRANFER PHASE

- 1. DO NOT START OR BRAKE QUICKLY
  - 2. KEEP LOAD AS FAR
    DOWN AS POSSIBLE
    (APPROX 12"-18")



- 3. KEEP SPEED TO CONDITION OF THE TERRAIN
- 4. TRAVEL STRAIGHT FORWARD UP HILL DO NOT TRAVERSE, TRAVEL IN REVERSE

  DOWN HILL LOADED
- 5. HAUL BULKY LOADS IN REVERSE.

#### **UNLOADING PHASE**

1. DRIVE TO UNLOADING POINT & SMOOTHLY STOP THE MACHINE LEAVING ENOUGH SPACE TO OPERATE THE BOOM.



2. APPLY THE SERVICE BRAKE & MOVE THE DRIVE SELECTOR TO NEUTRAL POSITION.

3. POSITION THE LOAD A FEW INCHES ABOVE THE DESIRED POSITION AND SET THE FORKS LEVEL.



#### **UNLOADING PHASE**

- 4. LOWER THE LOAD AND MAKE SURE IT IS LEVEL.
- 5. CAREFULLY WITHDRAW THE FORKS BY RETRACTING THE BOOM. ACCORDING TO THE LOAD HEIGHTS, YOU MAY HAVE TO RAISE OR LOWER THE BOOM AS THE FORKS COME OUT.
- 6. WHEN FORKS ARE CLEAR OF THE LOAD, RESET THEM TO TRANSFER POSITION.

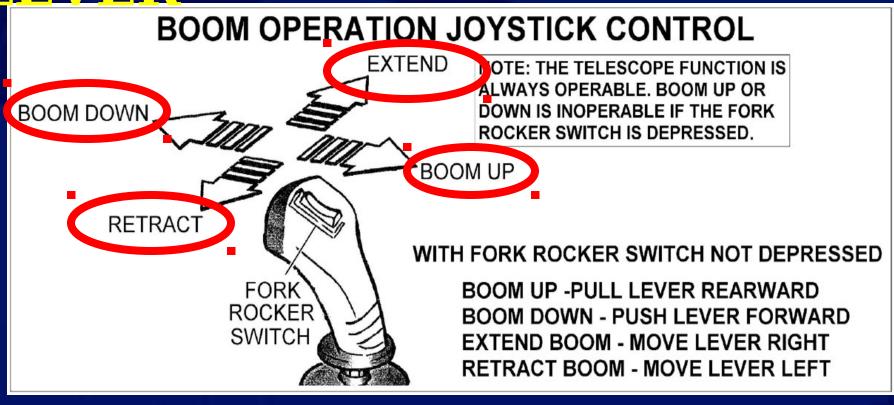




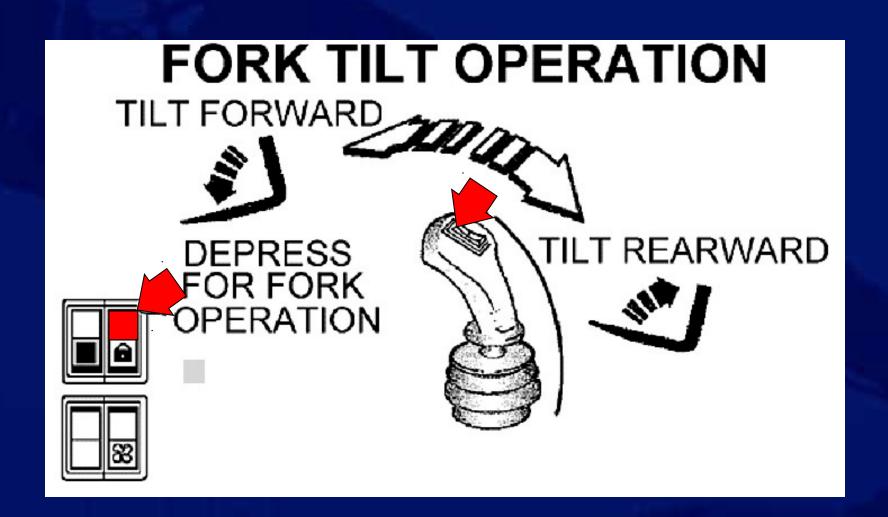


- •NEVER exceed the rated capacities of the forklift.
- •NEVER add extra counterweight.
- •NEVER add fork extensions.

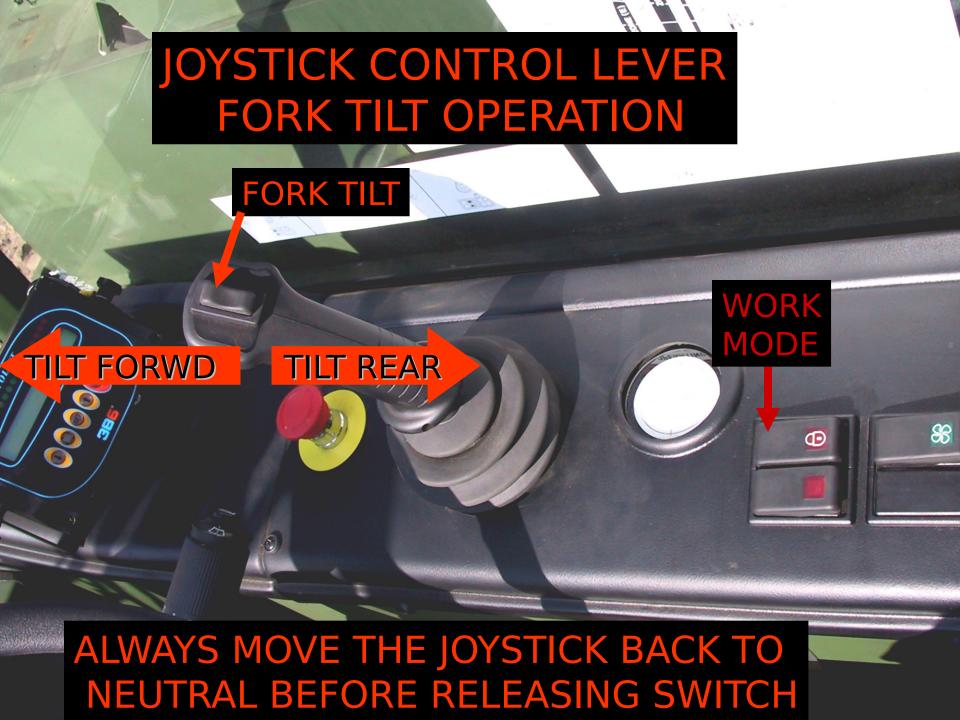
## OPERATING THE CONTROL LEVER



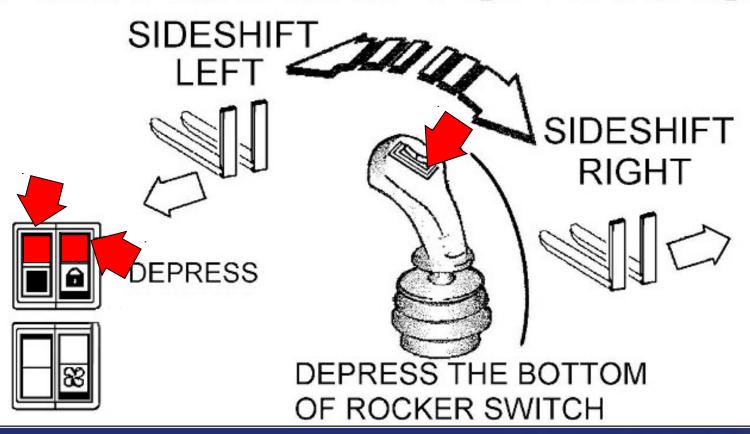


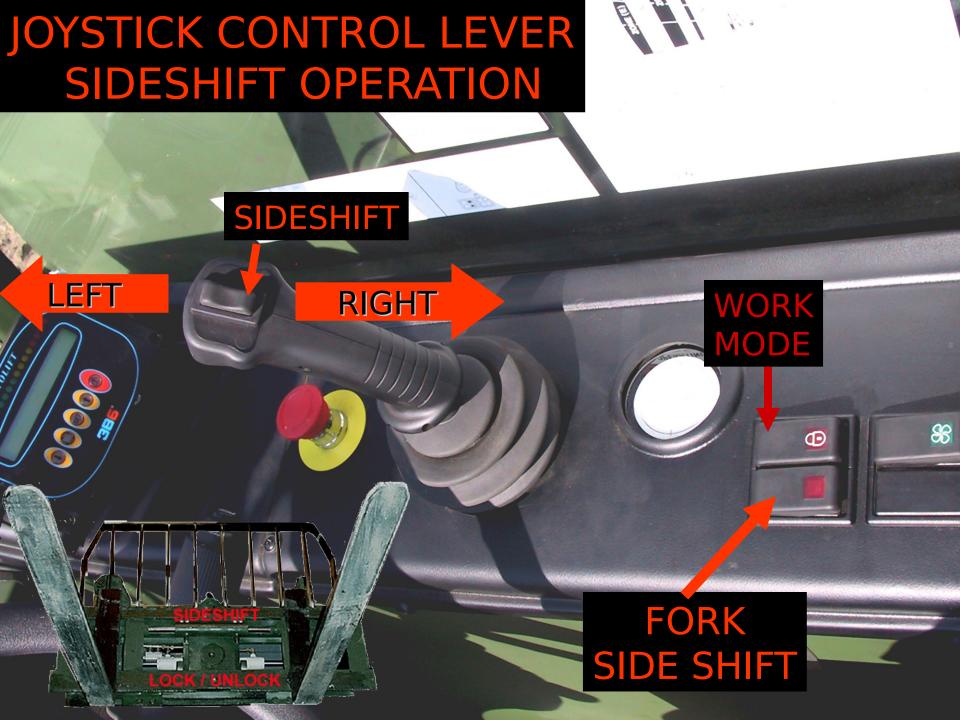


**DEPRESS TOP OF ROCKER SWITCH** 

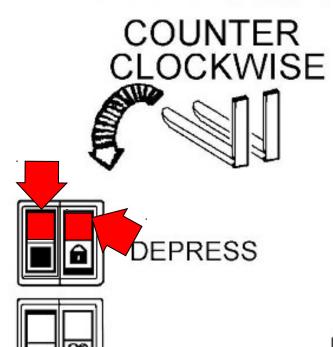


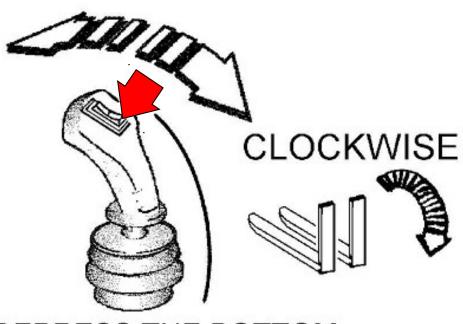
## FORK SIDESHIFT OPERATION



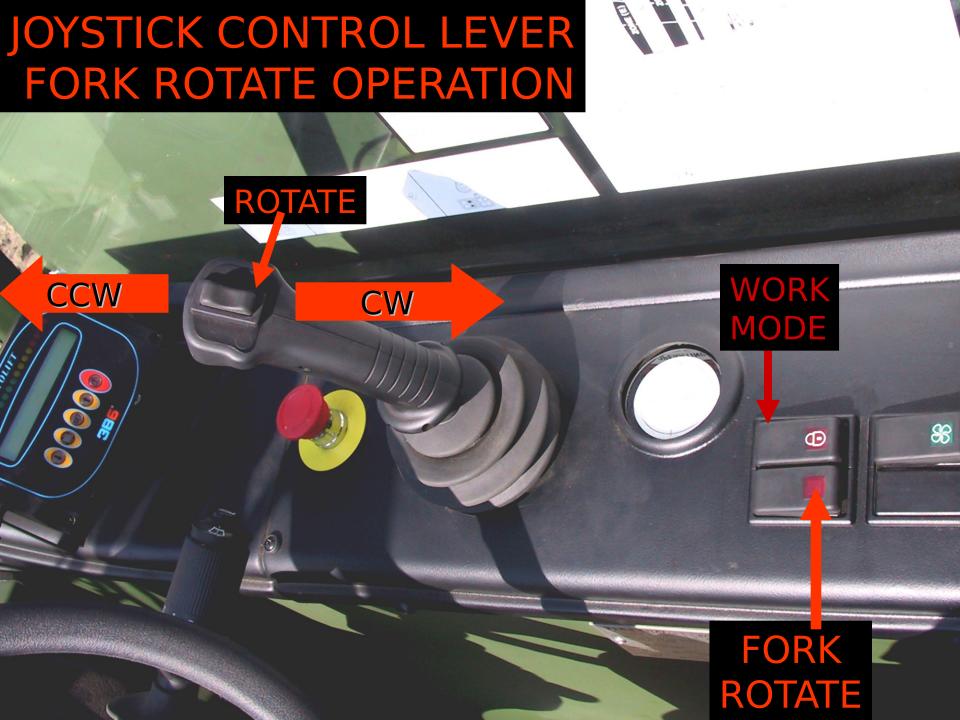


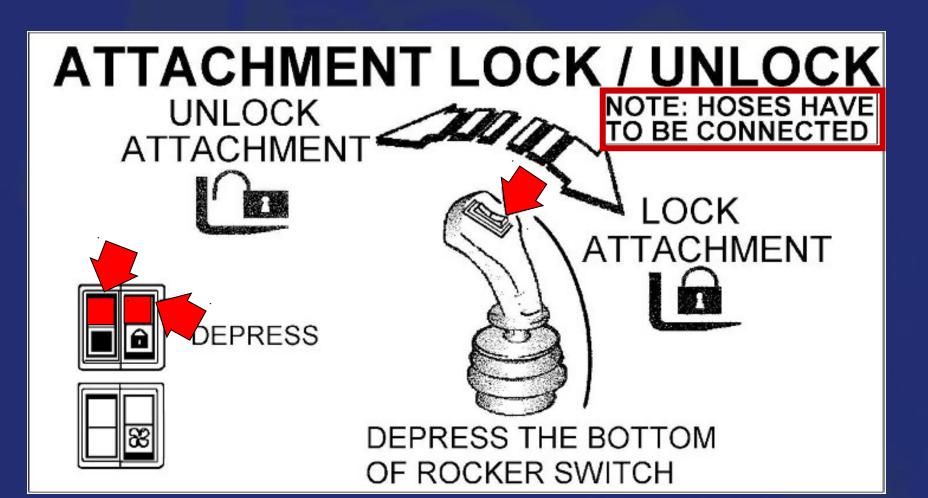
## FORK ROTATE OPERATION

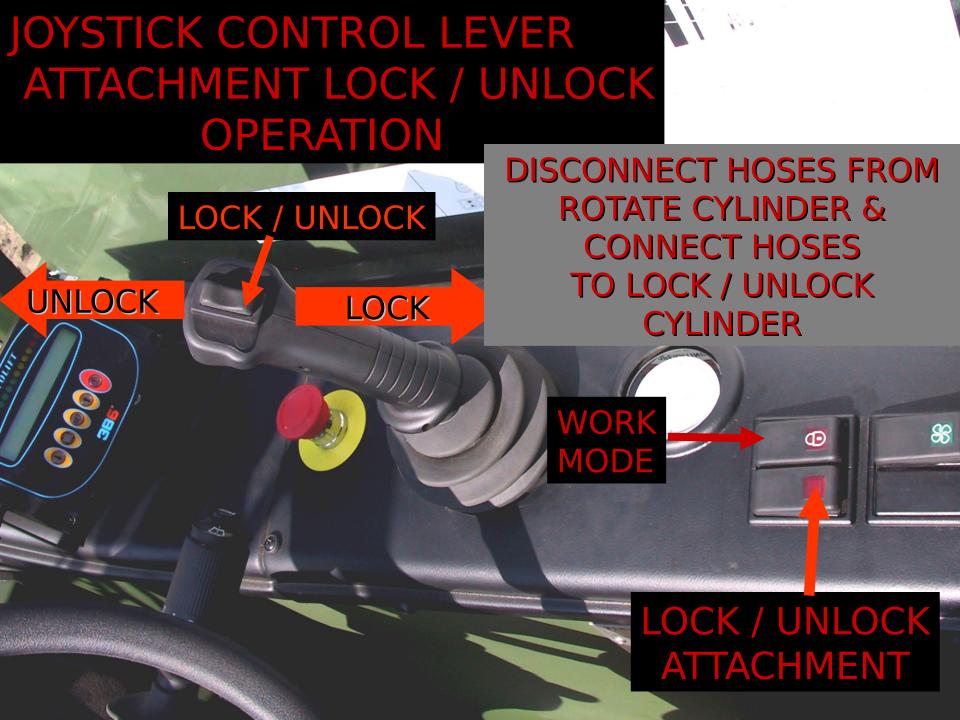




DEPRESS THE BOTTOM OF ROCKER SWITCH







## QUESTIONS?? ??